

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	16	77
						06930	LAYOUT	44032

①

### "N" VALUES

Sta. 268+20 - C.L. of Const.

6.0-	7.0, N=21
9.5-	10.5, N=10
15.5-	16.5, N=29
20.5-	21.5, N=35
25.5-	26.5, N=13
30.5-	31.5, N=32
35.5-	36.5, N=44
40.5-	41.5, N=20
45.5-	46.5, N=15
50.5-	51.5, N=12
55.5-	56.5, N=9
60.5-	61.5, N=17
65.5-	66.5, N=11
70.5-	71.5, N=24
75.5-	76.5, N=11
80.5-	81.5, N=37
85.5-	86.5, N=33
90.5-	91.5, N=26
95.5-	96.5, N=51
100.5-	101.5, N=85

Sta. 269+10 - C.L. of Const.

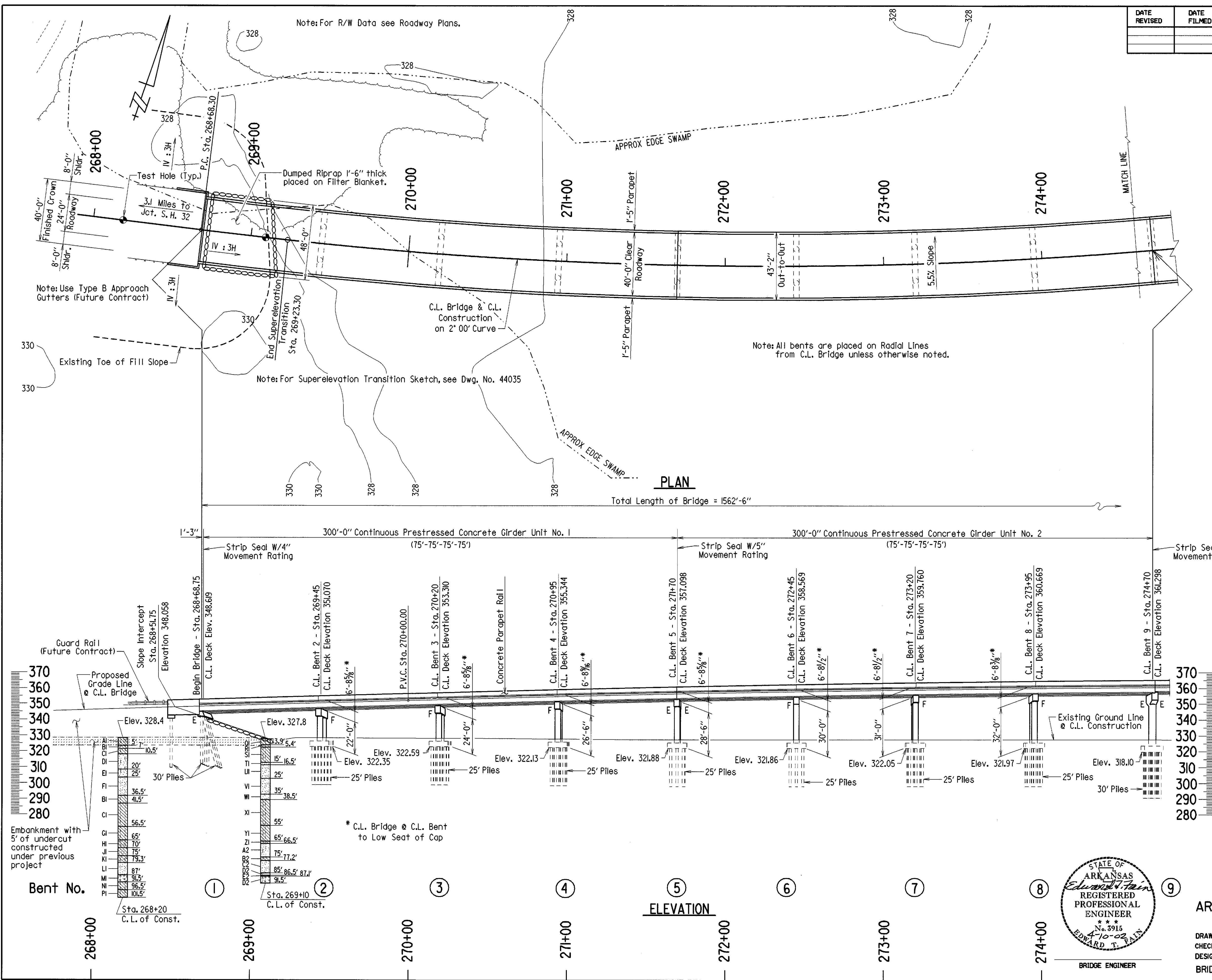
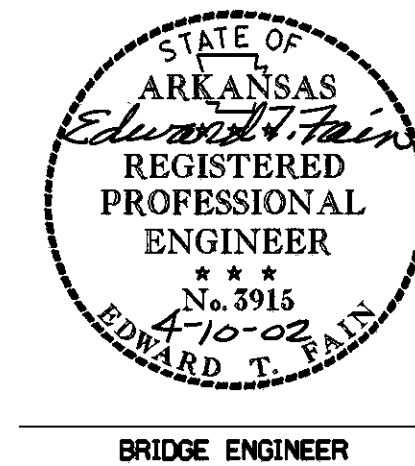
4.4-	5.4, N=5
9.4-	10.4, N=11
15.5-	16.5, N=47
20.5-	21.5, N=38
25.5-	26.5, N=27
30.5-	31.5, N=13
35.5-	36.5, N=65
40.5-	41.5, N=15
45.5-	46.5, N=9
50.5-	51.5, N=14
55.5-	56.5, N=17
60.5-	61.5, N=17
65.5-	66.5, N=14
70.5-	71.5, N=33
75.5-	76.5, N=33
80.5-	81.5, N=65
85.5-	86.5, N=32
90.5-	91.5, N=35

(SHEET 1 OF 4)

LAYOUT OF  
BRIDGE OVER HIGHWAY 71 AND  
KANSAS CITY SOUTHERN R.R.  
HWY. 71 & KCS R.R. STRUCTURE  
(ASHDOWN BYPASS) (S)  
LITTLE RIVER COUNTY  
ROUTE 32 SEC. 2

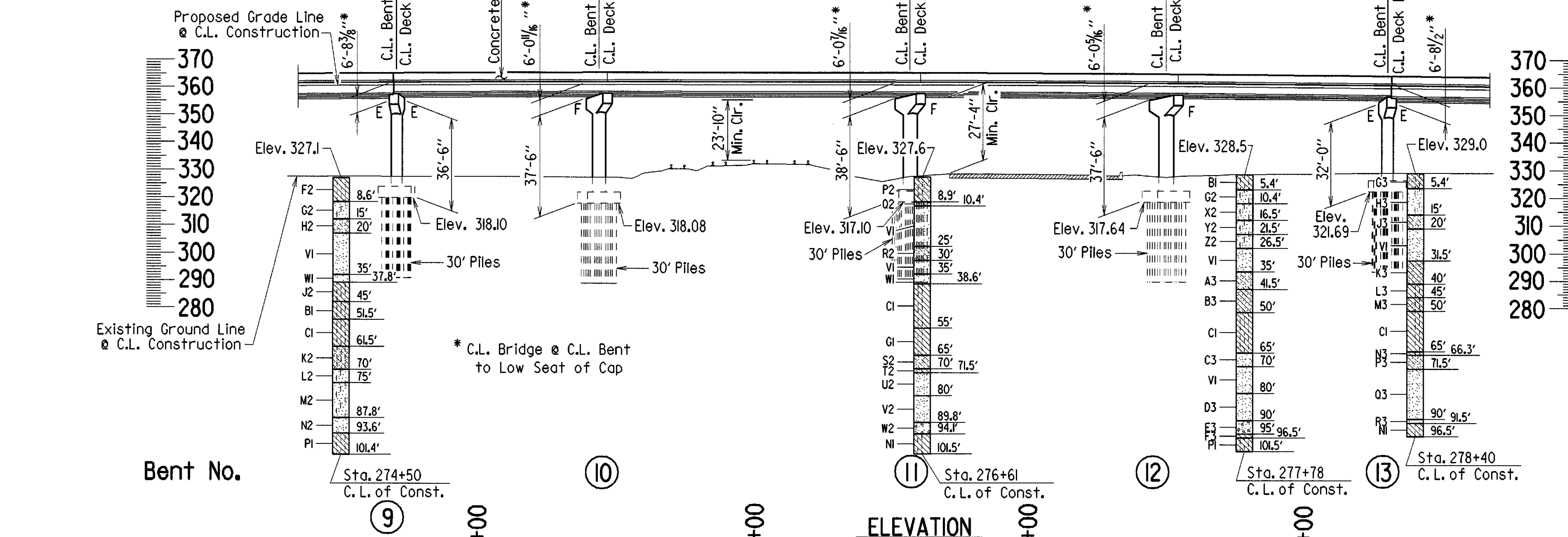
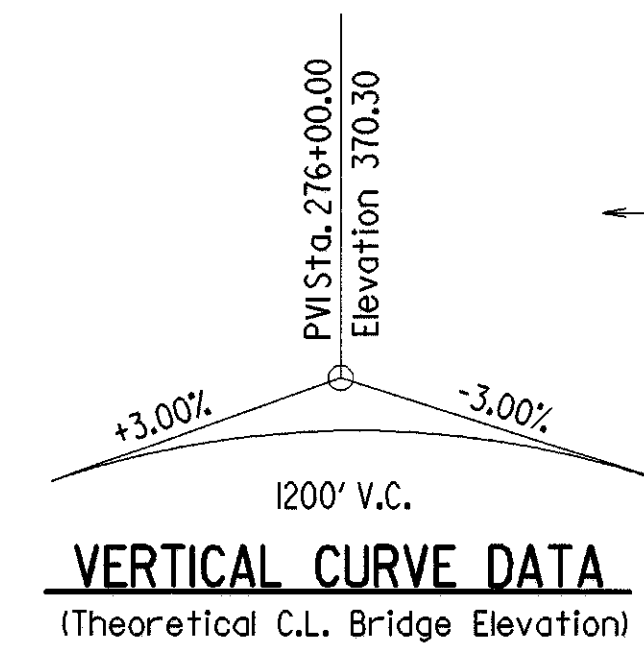
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 07-26-01 FILENAME: B030264X1.L1  
CHECKED BY: AMS DATE: 9-25-01 SCALE: 1"=30'-0"  
DESIGNED BY: CES DATE: July 01  
BRIDGE NO. 06930 DRAWING NO. 44032



# HORIZONTAL CURVE DATA

P.I. Sta. 283+71.5  
 A = 53°39'19.7" LT.  
 D = 2°00'00"  
 T = 1448.85'  
 L = 2682.77'  
 e = 0.055'  
 Ls = 300'  
 P.C. Sta. 268+68.30  
 P.T. Sta. 295+51.07  
 Begin Transition Sta. 266+23.30  
 End Transition Sta. 269+23.30



Note: All bents are placed on Radial Lines from C.L. Bridge unless otherwise noted.

## PLAN

Total Length of Bridge = 1562'-2"

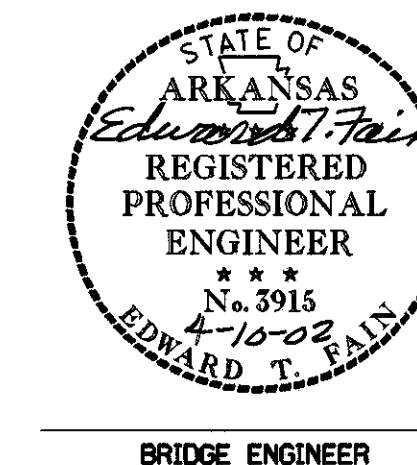
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	17	77
				06930	LAYOUT		44033	

## "N" VALUES

Sta. 274+50 - C.L. of Const.	Sta. 277+78 - C.L. of Const.
4.1- 5.1, N=15	4.4- 5.4, N=20
9.1- 10.1, N=22	9.4- 10.4, N=19
15.5- 16.5, N=74	15.5- 16.5, N=10
20.5- 21.5, N=25	20.5- 21.5, N=32
25.5- 26.5, N=26	25.5- 26.5, N=10
30.5- 31.5, N=19	30.5- 31.5, N=14
35.5- 36.4, N=108(0.9')	35.5- 36.5, N=11
40.5- 41.5, N=9	40.5- 41.5, N=30
45.5- 46.5, N=18	45.5- 46.5, N=5
50.5- 51.5, N=20	50.5- 51.5, N=13
55.5- 56.5, N=11	55.5- 56.5, N=9
60.5- 61.5, N=13	60.5- 61.5, N=15
65.5- 66.5, N=7	65.5- 66.5, N=6
70.5- 71.5, N=31	70.5- 71.5, N=21
75.5- 76.5, N=81	75.5- 76.5, N=11
80.5- 81.5, N=55	80.5- 81.5, N=65
85.5- 86.5, N=70	85.5- 86.5, N=55
90.5- 91.5, N=21	90.5- 91.5, N=20
95.5- 96.4, N=99(0.9')	95.5- 96.5, N=34
100.5- 101.4, N=97(0.9')	100.5- 101.5, N=62

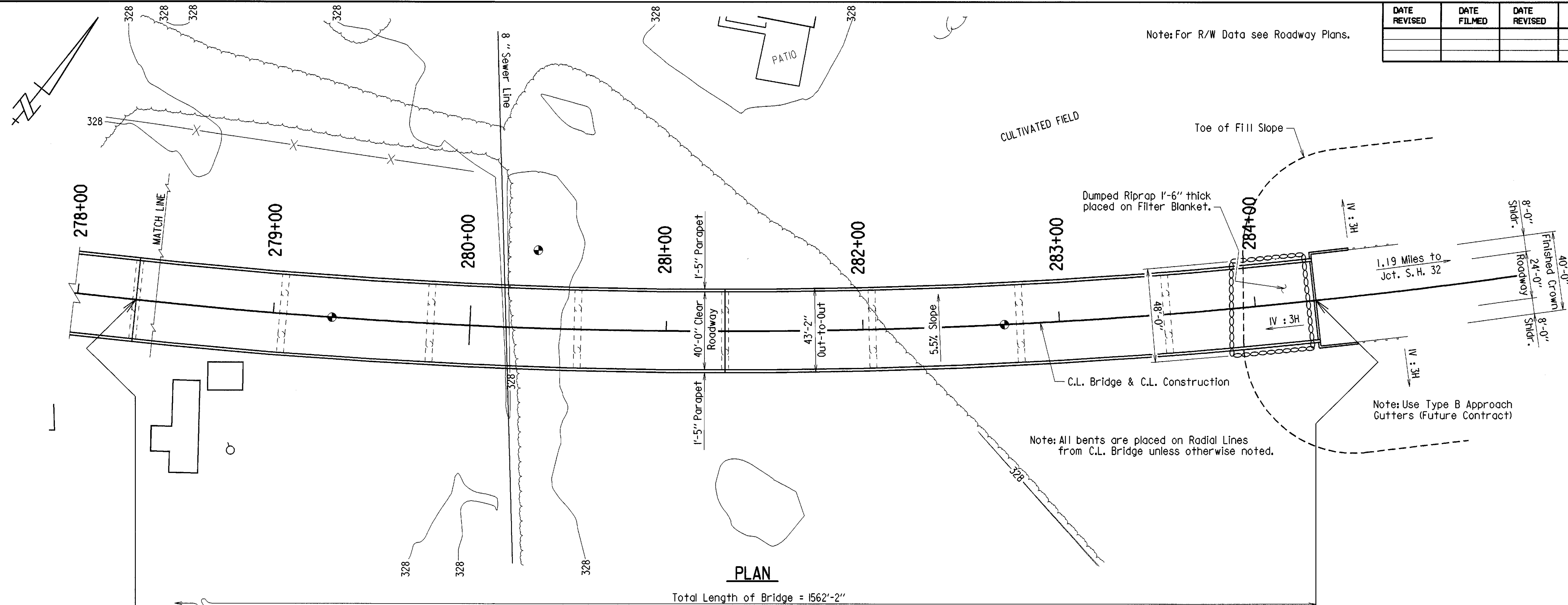
Sta. 276+61 - C.L. of Const.	Sta. 278+40 - C.L. of Const.
4.4- 5.4, N=10	4.4- 5.4, N=18
9.4- 10.4, N=23	10.9- 11.9, N=25
15.5- 16.5, N=15	15.5- 16.5, N=11
20.5- 21.5, N=19	20.5- 21.5, N=18
25.5- 26.5, N=33	25.5- 26.5, N=14
30.5- 31.5, N=22	30.5- 31.5, N=13
35.5- 36.5, N=60	35.5- 36.5, N=13
40.5- 41.5, N=14	40.5- 41.5, N=14
45.5- 46.5, N=14	45.5- 46.5, N=9
50.5- 51.5, N=9	50.5- 51.5, N=13
55.5- 56.5, N=17	55.5- 56.5, N=12
60.5- 61.5, N=12	60.5- 61.5, N=13
65.5- 66.5, N=5	65.5- 66.5, N=13
70.5- 71.5, N=37	70.5- 71.5, N=24
75.5- 76.5, N=42	75.5- 76.5, N=34
80.5- 81.5, N=67	80.5- 81.5, N=52
85.5- 86.5, N=53	85.5- 86.5, N=56
90.5- 91.5, N=24	90.5- 91.5, N=39
95.5- 96.5, N=42	95.5- 96.5, N=32
100.5- 101.5, N=53	



(SHEET 2 OF 4)  
 LAYOUT OF  
 BRIDGE OVER HIGHWAY 71 AND  
 KANSAS CITY SOUTHERN R.R.  
 HWY. 71 & KCS R.R. STRUCTURE  
 (ASHDOWN BYPASS) (S)  
 LITTLE RIVER COUNTY  
 ROUTE 32 SEC. 2  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 07-26-01 FILENAME: B030264XLI  
 CHECKED BY: AHS DATE: 9-25-01 SCALE: 1"=30'-0"  
 DESIGNED BY: CES DATE: 4-14-01  
 BRIDGE NO. 06930 DRAWING NO. 44033

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	18	77
				06930	LAYOUT		44034	



**"N" VALUES**

Sta. 279+30 - C.L. of Const.

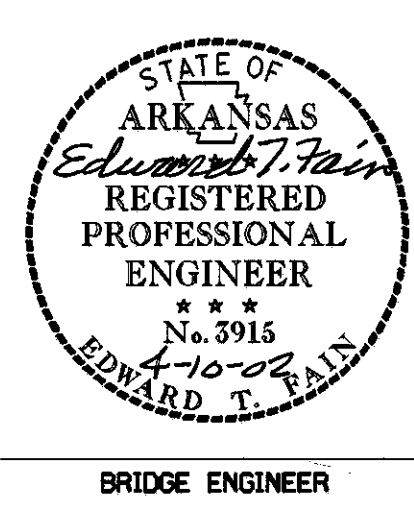
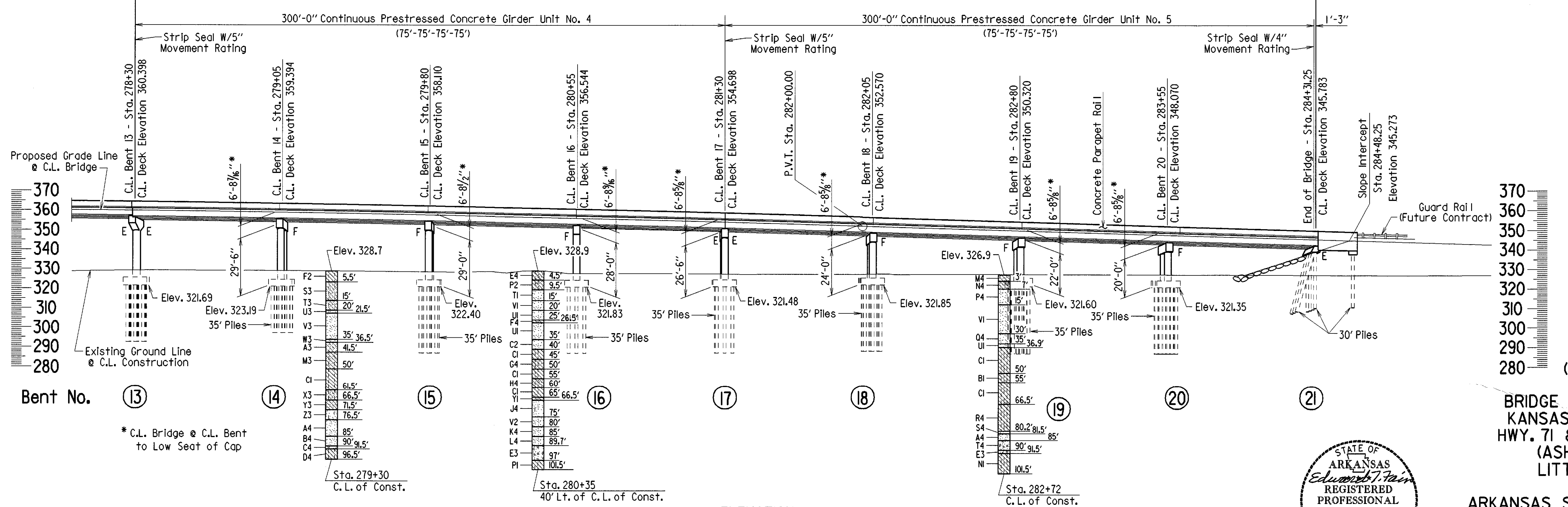
4.5-	5.5, N=11
9.5-	10.5, N=19
15.5-	16.5, N=7
20.5-	21.5, N=20
25.5-	26.5, N=42
30.5-	31.5, N=20
35.5-	36.5, N=37
40.5-	41.5, N=24
45.5-	46.5, N=12
50.5-	51.5, N=15
55.5-	56.5, N=11
60.5-	61.5, N=11
65.5-	66.5, N=0
70.5-	71.5, N=8
75.5-	76.5, N=35
80.5-	81.5, N=49
85.5-	86.5, N=65
90.5-	91.5, N=38
95.5-	96.5, N=27

Sta. 280+35 - 40' Lt. of C.L. of Const.

5.0-	6.0, N=11
10.0-	11.0, N=35
15.5-	16.5, N=16
20.5-	21.5, N=39
25.5-	26.5, N=17
30.5-	31.5, N=31
35.5-	36.5, N=69
40.5-	41.5, N=10
45.5-	46.5, N=10
50.5-	51.5, N=13
55.5-	56.5, N=6
60.5-	61.5, N=15
65.5-	66.5, N=17
70.5-	71.5, N=27
75.5-	76.5, N=53
80.5-	81.5, N=29
85.5-	86.5, N=52
90.5-	91.5, N=24
95.5-	96.5, N=21
100.5-	101.5, N=91

Sta. 282+72 - C.L. of Const.

6.0-	7.0, N=14
9.0-	10.0, N=11
15.5-	16.5, N=20
20.5-	21.5, N=20
25.5-	26.5, N=21
30.5-	31.5, N=24
35.5-	36.5, N=33
40.5-	41.5, N=13
45.5-	46.5, N=14
50.5-	51.5, N=16
55.5-	56.5, N=15
60.5-	61.5, N=15
65.5-	66.5, N=14
70.5-	71.5, N=13
75.5-	76.5, N=11
80.5-	81.5, N=31
85.5-	86.5, N=31
90.5-	91.5, N=20
95.5-	96.5, N=32
100.5-	101.5, N=55
100.5-	101.5, N=55

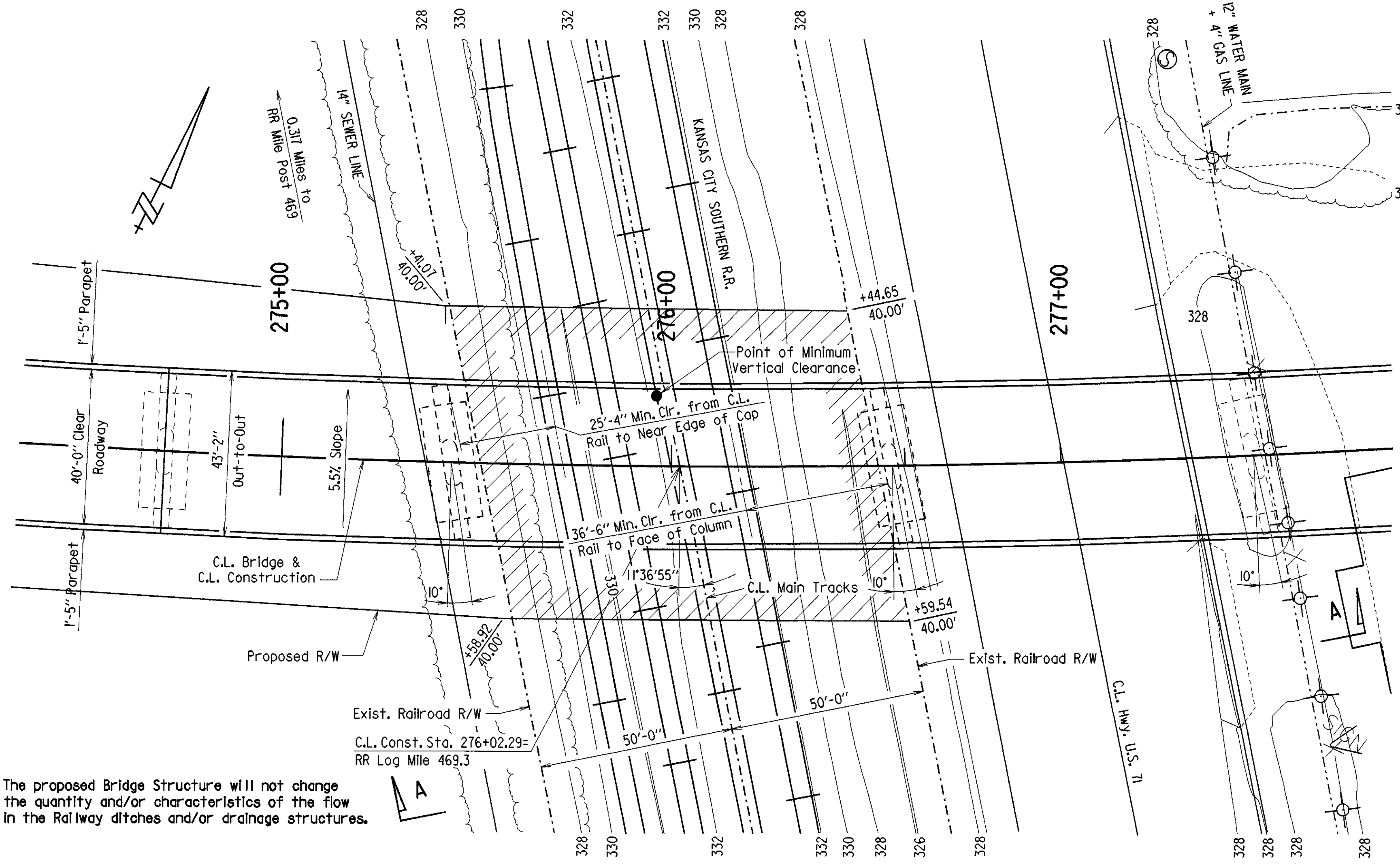


(SHEET 3 OF 4)  
 LAYOUT OF  
 BRIDGE OVER HIGHWAY 71 AND  
 KANSAS CITY SOUTHERN R.R.  
 HWY. 71 & KCS R.R. STRUCTURE  
 (ASHDOWN BYPASS) (S)  
 LITTLE RIVER COUNTY  
 ROUTE 32 SEC. 2  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 07-26-01 FILENAME: B030264X111  
 CHECKED BY: ALS DATE: 9-25-01 SCALE: 1"=30'-0"  
 DESIGNED BY: CES DATE: 06/1/01  
 BRIDGE NO. 06930 DRAWING NO. 44034



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	030264		20	77
				06930	Exhibit A		44036	

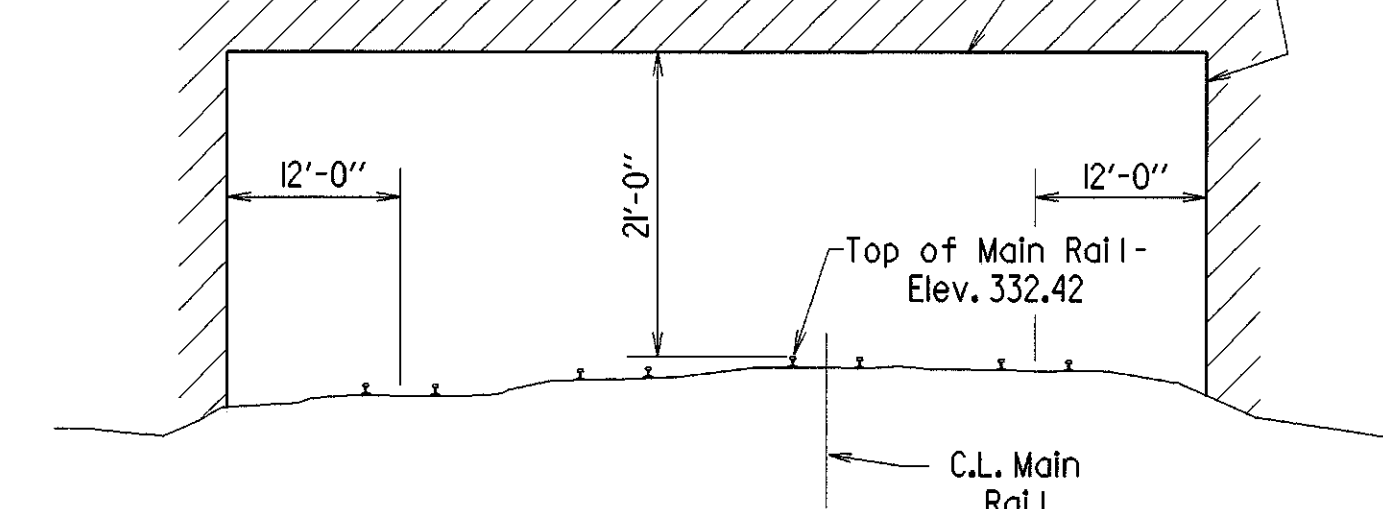


Note: The proposed Bridge Structure will not change the quantity and/or characteristics of the flow in the Railway ditches and/or drainage structures.

\* No Bridge Deck Drains will be allowed over Railroad R/W

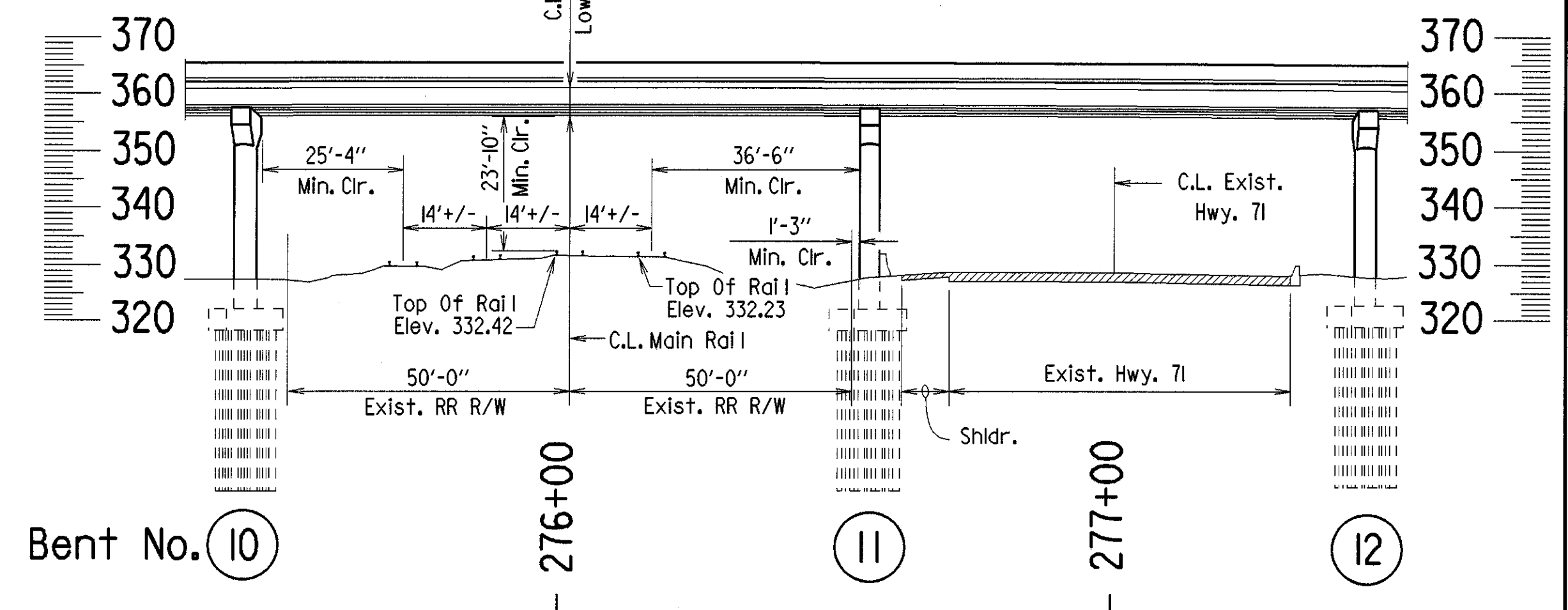
PLAN

Note: Dimensions are normal to Kansas City Southern R.R. No construction activities or other obstructions may be placed within these limits.



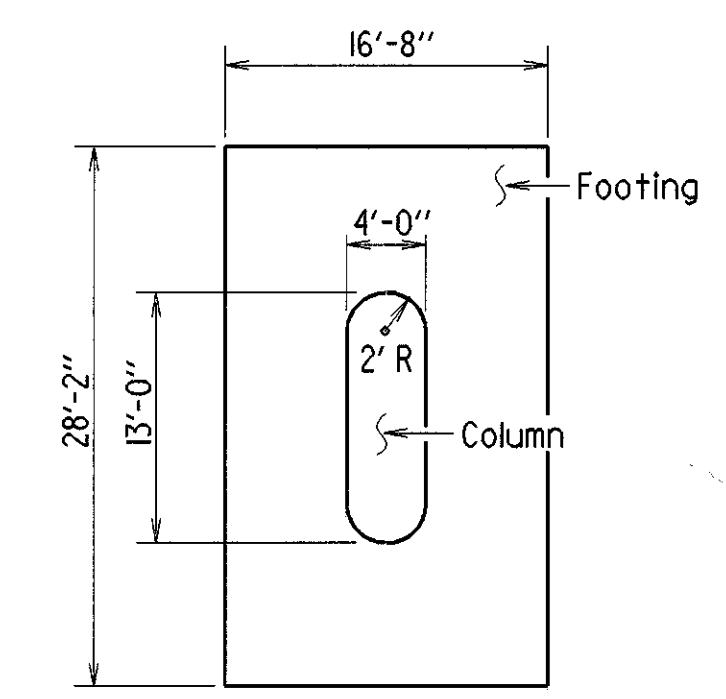
MINIMUM CONSTRUCTION CLEARANCES  
Not to Scale

Note: Dimensions are normal to Kansas City Southern R.R.



VIEW A-A  
(ELEVATION NORMAL TO KCS R.R.)  
Not to Scale

Note: Rail elevations and clearances based on Survey of March 2000.

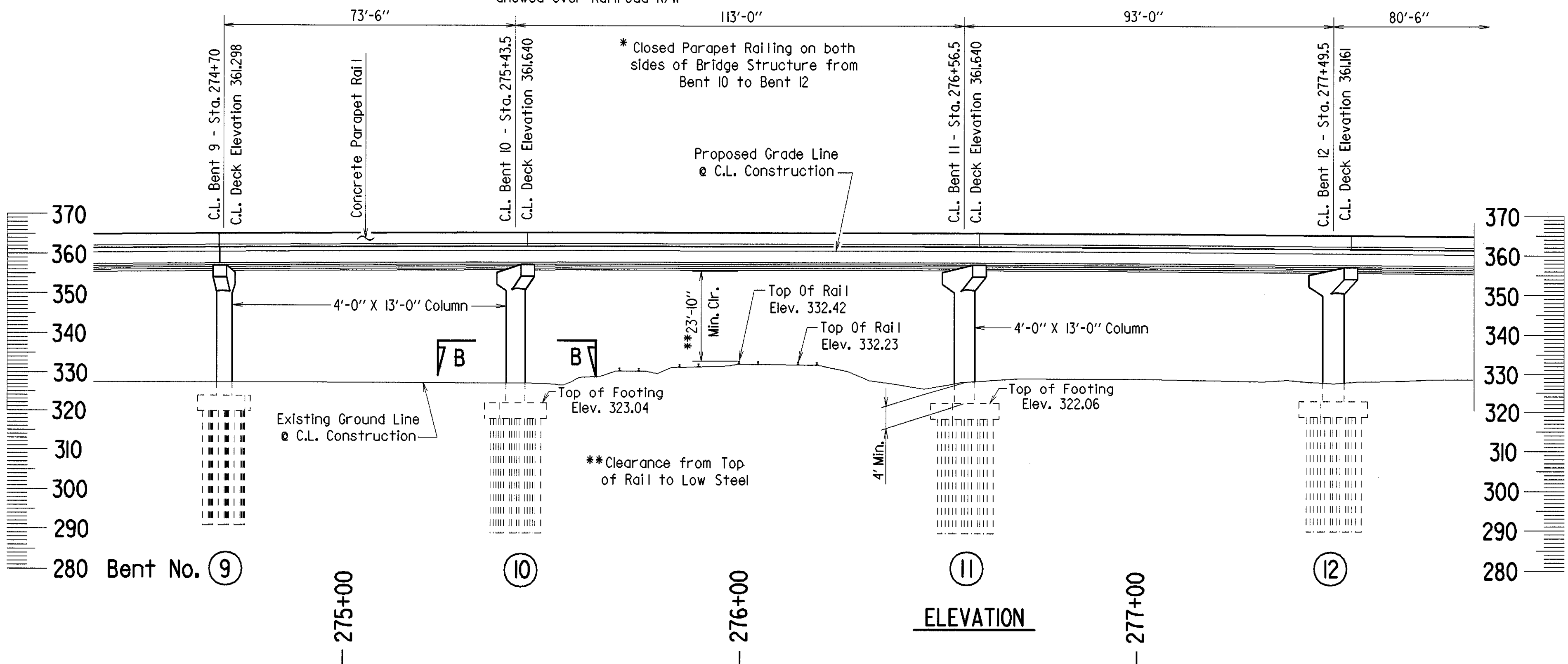


SECTION B-B  
1" = 10'-0"



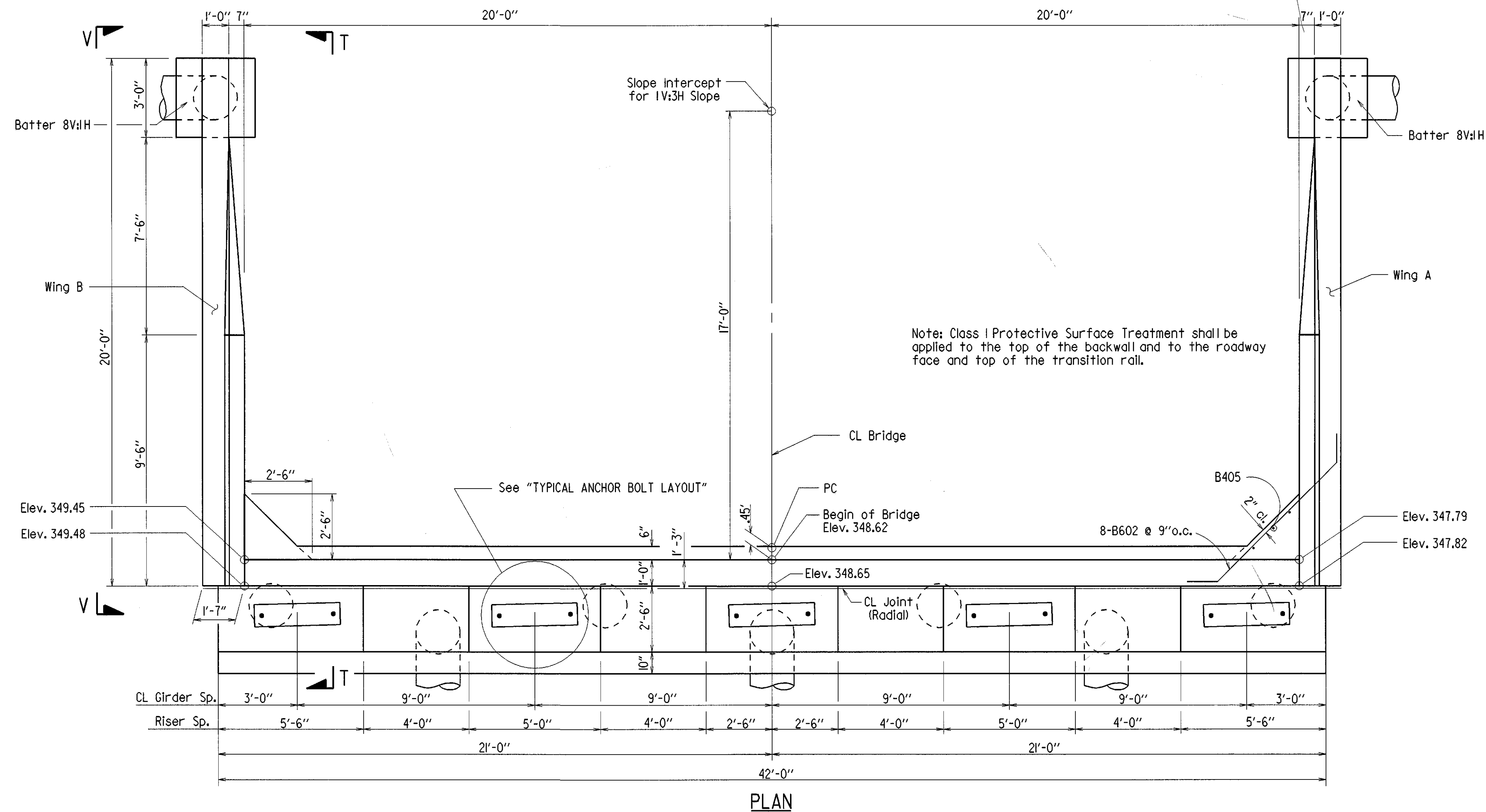
(EXHIBIT A)  
BRIDGE OVER HIGHWAY 71 AND  
KANSAS CITY SOUTHERN R.R.  
HWY. 71 & KCS R.R. STRUCTURE  
(ASHDOWN BYPASS) (S)  
LITTLE RIVER COUNTY  
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 07-26-01 FILENAME: B030264XLLI  
CHECKED BY: ANS DATE: 9-25-01 SCALE: 1"=20'-0"  
DESIGNED BY: CES DATE: 10-14-01 OR AS SHOWN  
BRIDGE NO. 06930 DRAWING NO. 44036



ELEVATION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	21	77
				06930		End Bent	44037	



# BAR LIST

MARK	NO.	REQ'D.	LENGTH	P. D.	BENDING DIAGRAMS
B401	66	11'-11"	2"		
B402	21	7'-6"	2"		
B403	2	4'-8"	Str.		
B404	12	42'-10"	Str.		
B405	6	6'-10"	Str.		
B406	37	7'-3"	Str.		
B407	37	3'-11"	2"		
B501	37	7'-3"	Str.		
B601	8	7'-3"	Str.		
B602	16	8'-4"	4 1/2"		
B701	6	43'-4"	5/4"		
B702	6	41'-8"	Str.		
R401	26	3'-11"	2"		
R402	8	4'-0"	2"		
R403	12	19'-8"	Str.		
R601	20	7'-4"	Str.		
R602	6	4'-8"	Str.		
W401	34	3'-10"	2"		
W402	34	5'-1"	Str.		
W403	68	7'-0"	Str.		
W404	6	9'-11"	2"		
W701	20	19'-8"	Str.		
W702	20	19'-8"	5/4"		
W703	4	16'-8"	Str.		
F601	20	5'-8"	4 1/2"		
F602	8	2'-8"	Str.		

Dimensions are out to out of bars

## GENERAL NOTES

All Concrete shall be Class "S" and shall be poured in the dry with a min. 28-day compression strength  $f'_c = 3500$  psi. All exposed corners to be chamfered  $\frac{3}{4}"$  unless otherwise noted.

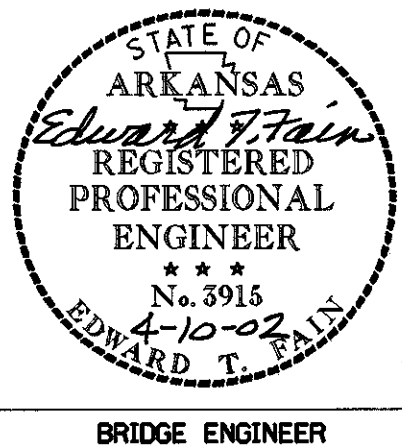
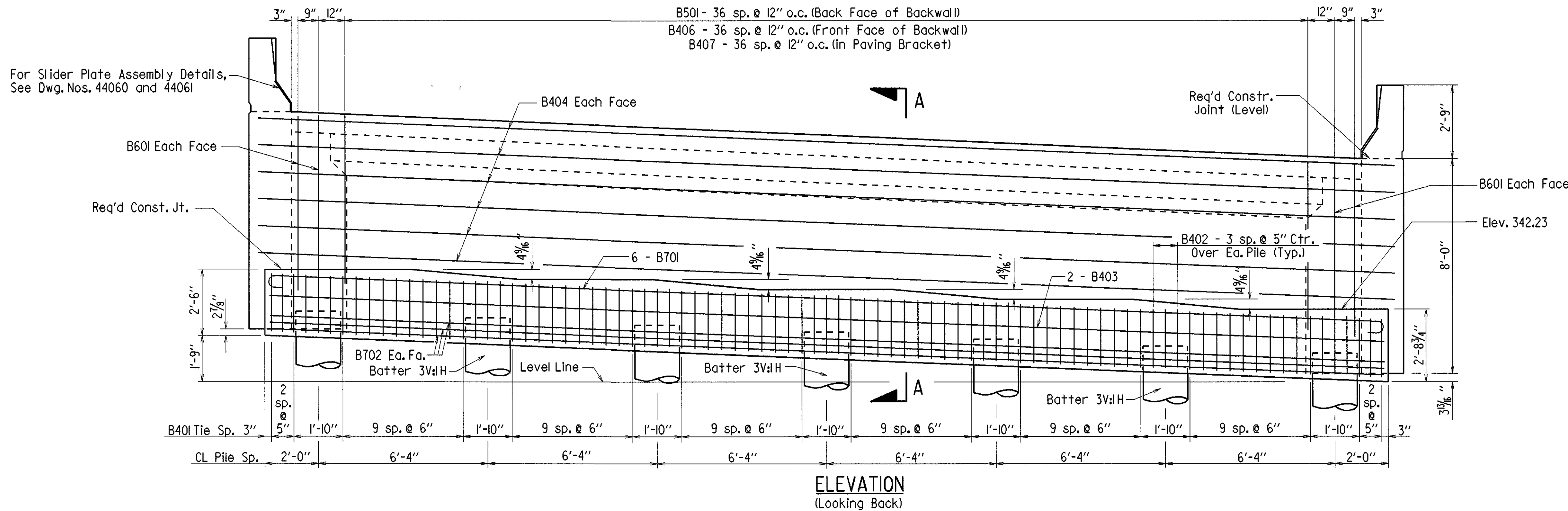
Reinforcing steel shall conform to AASHTO M 31 or M 53, Grade 60.

Structural Steel in End Bents shall be AASHTO M 270, Grade 50W and shall be paid for as "Structural Steel in Plate Girder Spans (AASHTO M 270, GR. 50W)".

Backwall shall not be poured before beams are in place and concrete deck pours have been made.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

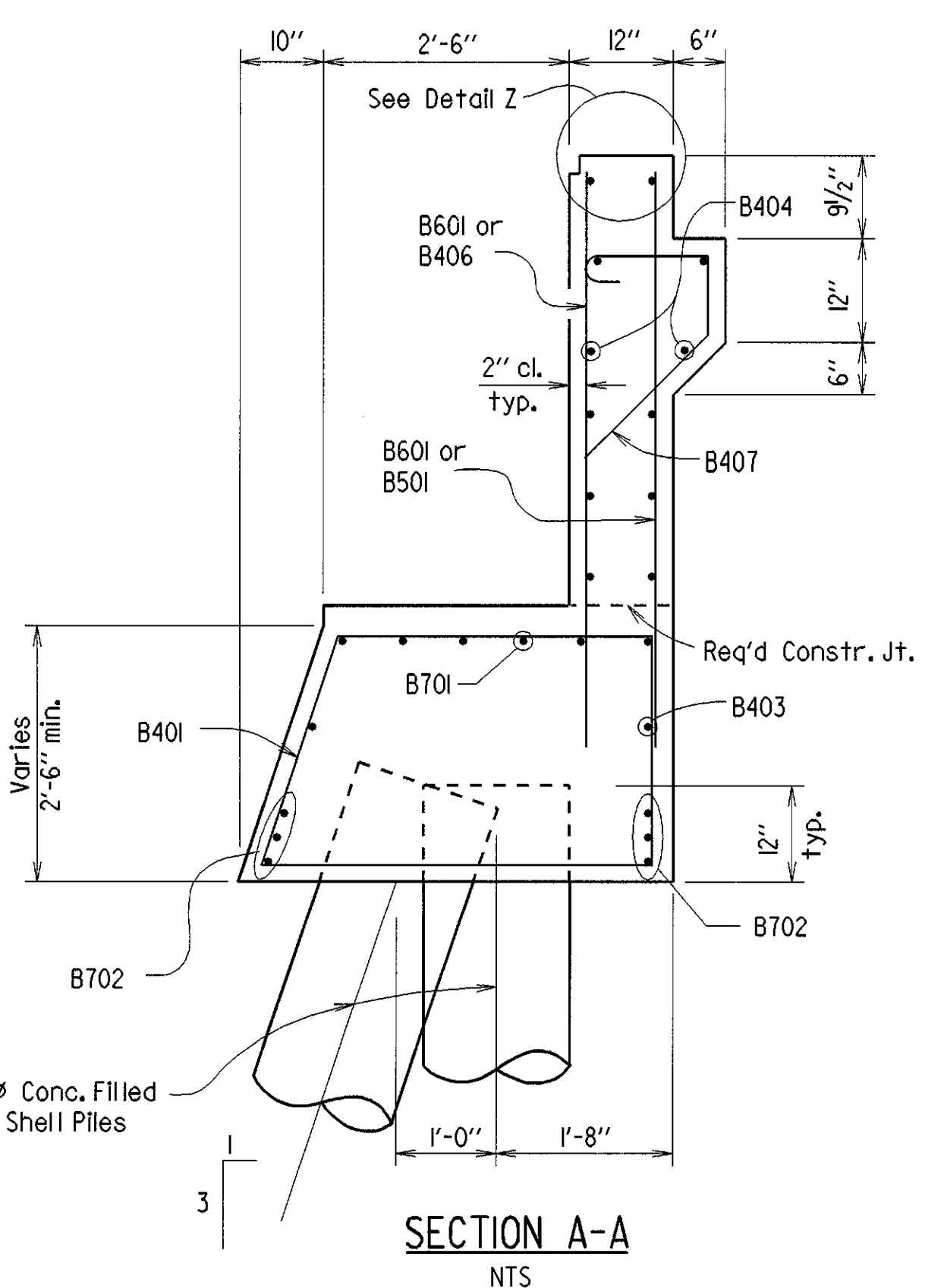
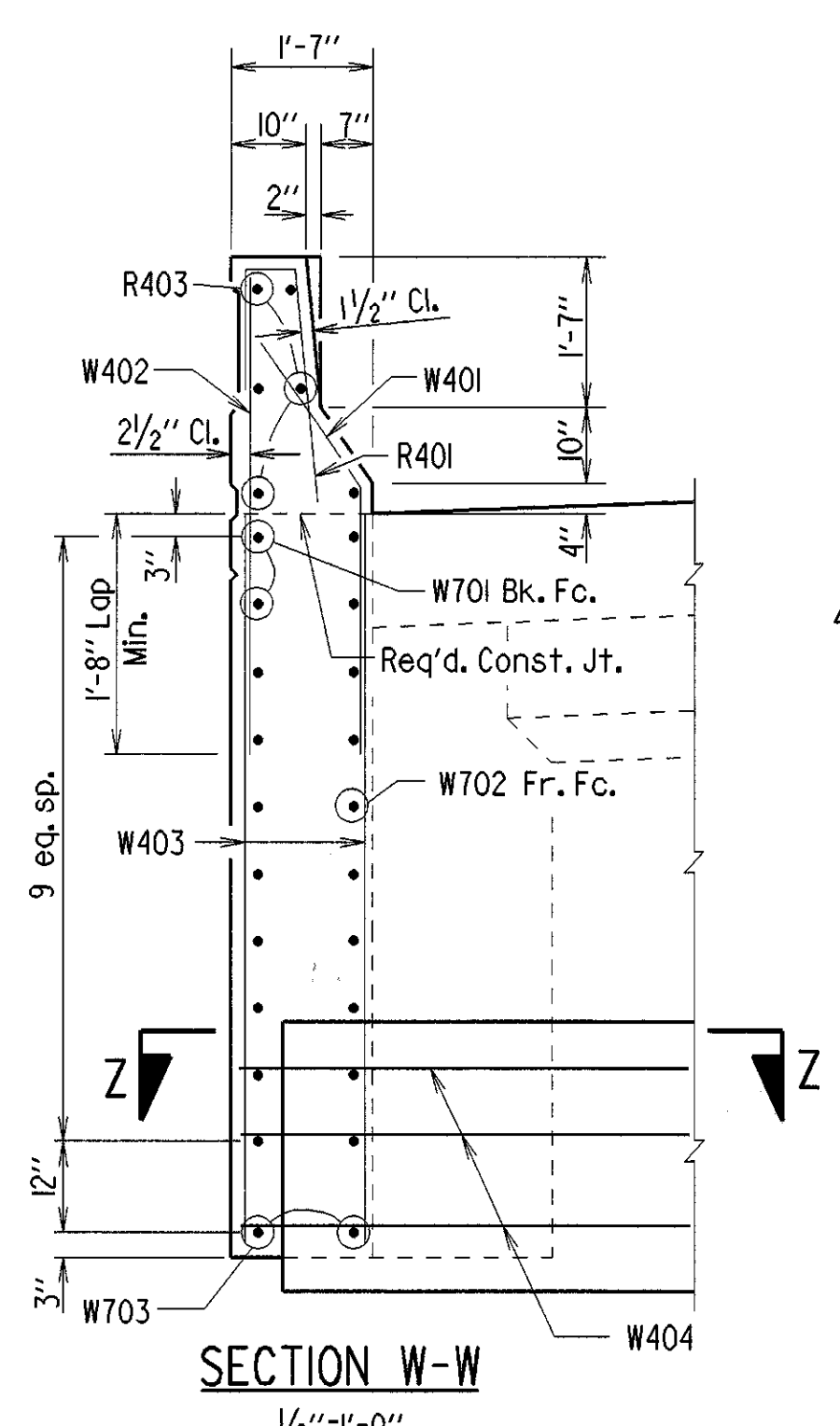
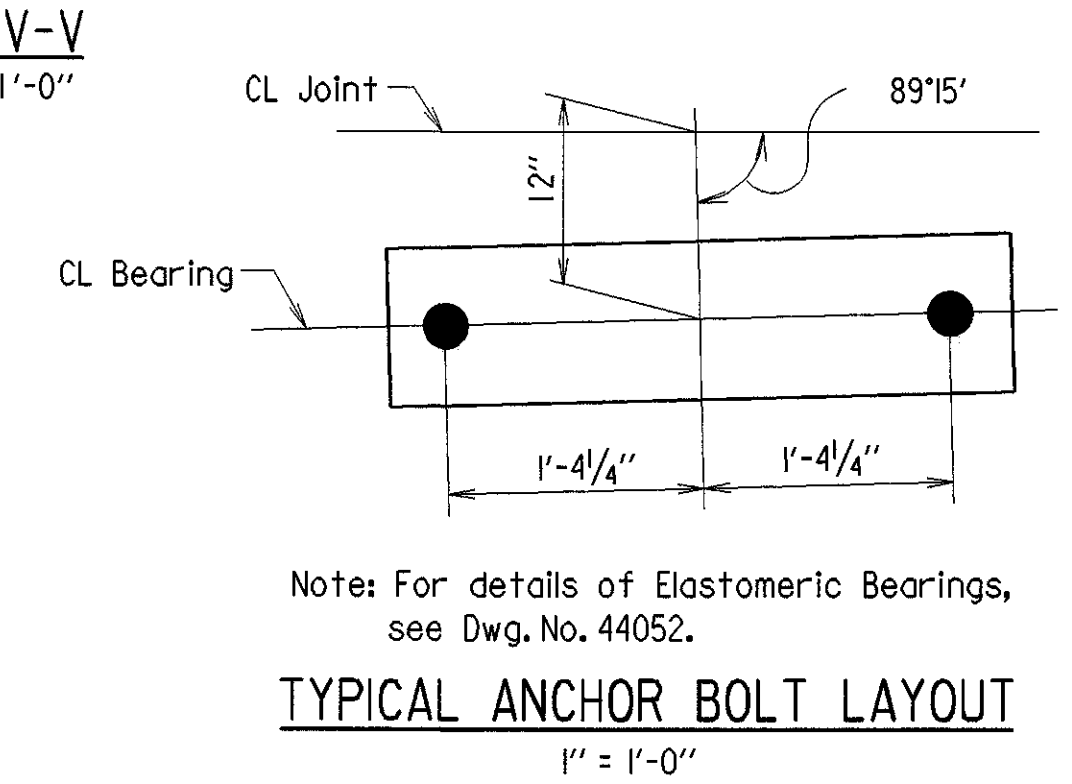
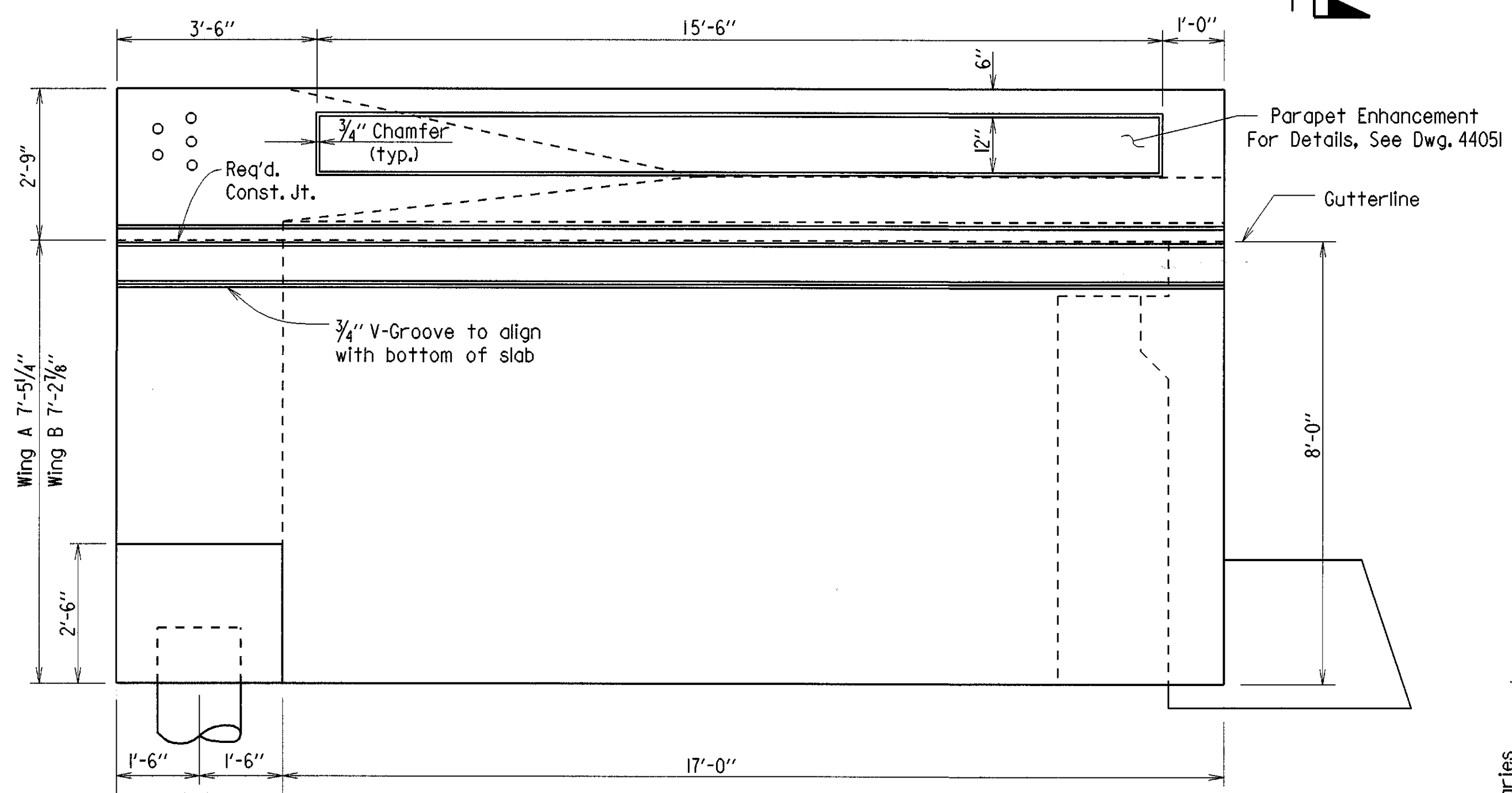
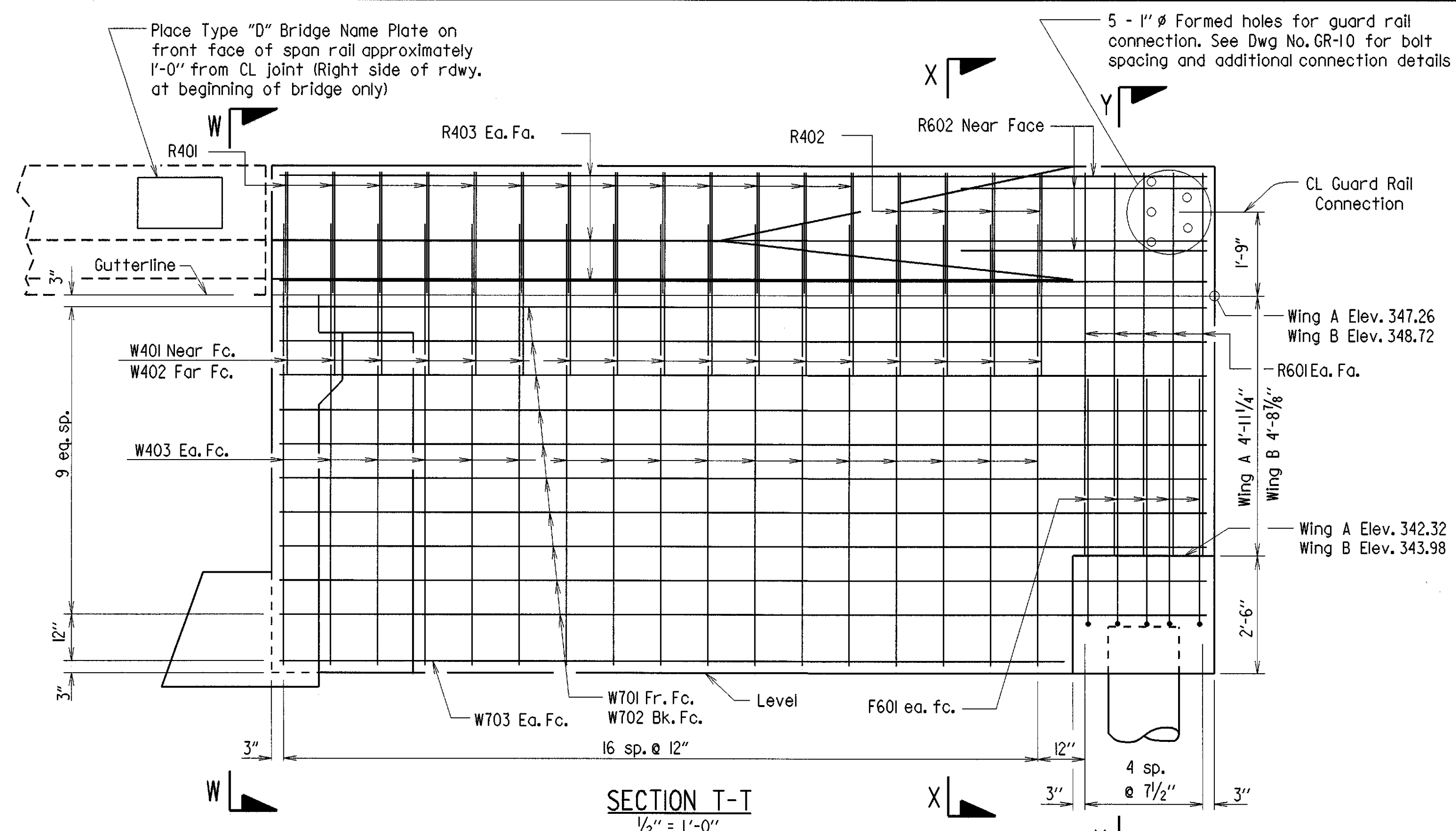
For additional information, See Layout.



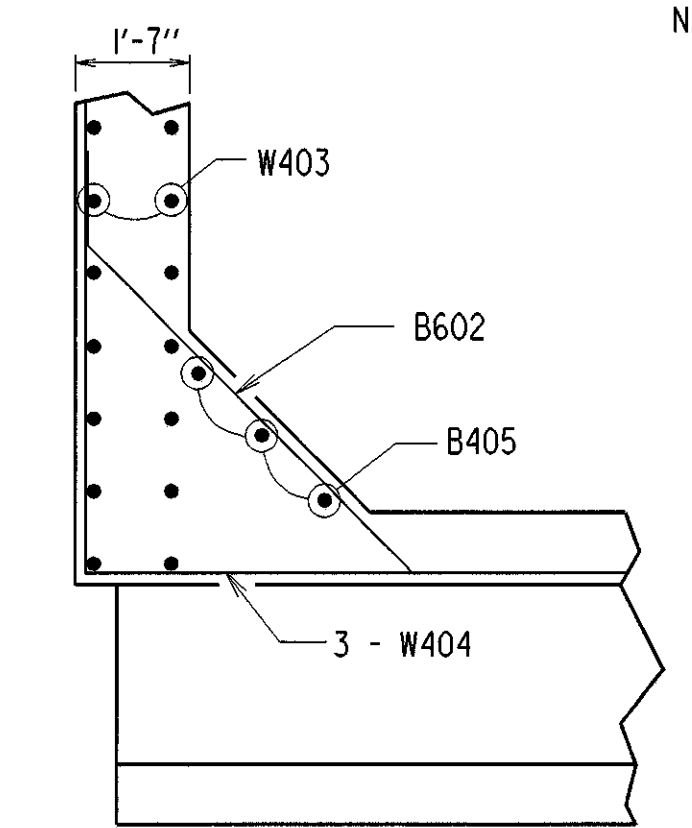
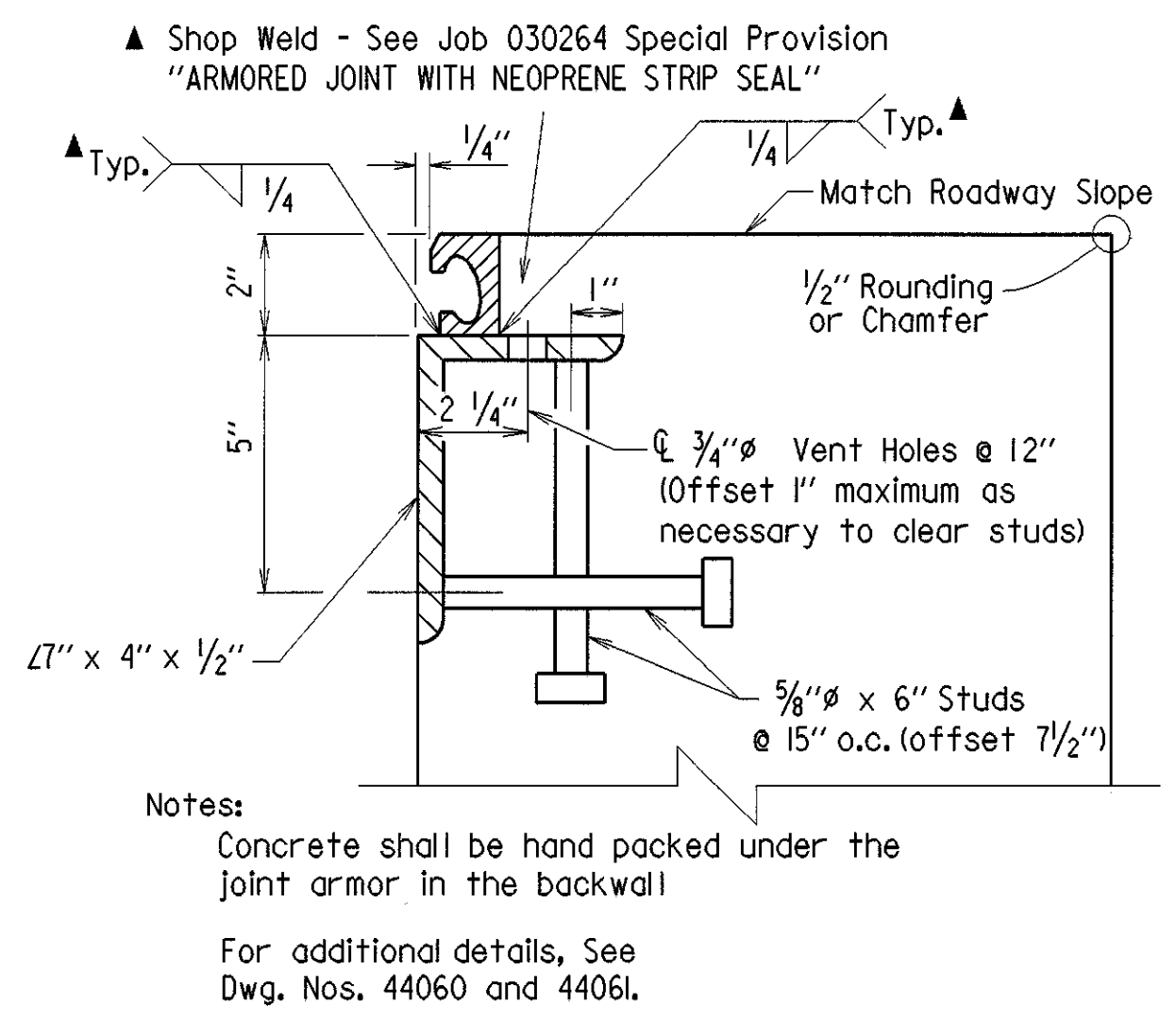
(SHEET 1 OF 2)  
DETAILS OF END BENT 1  
ASHDOWN BYPASS  
LITTLE RIVER COUNTY  
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: SAT DATE: 3-19-02 FILENAME: b030264X1.b1  
CHECKED BY: AMS DATE: 3-27-02 SCALE:  $\frac{3}{8}" = 1'-0"$   
DESIGNED BY: JAC DATE: 1-25-02  
BRIDGE NO. 06930 DRAWING NO. 44037

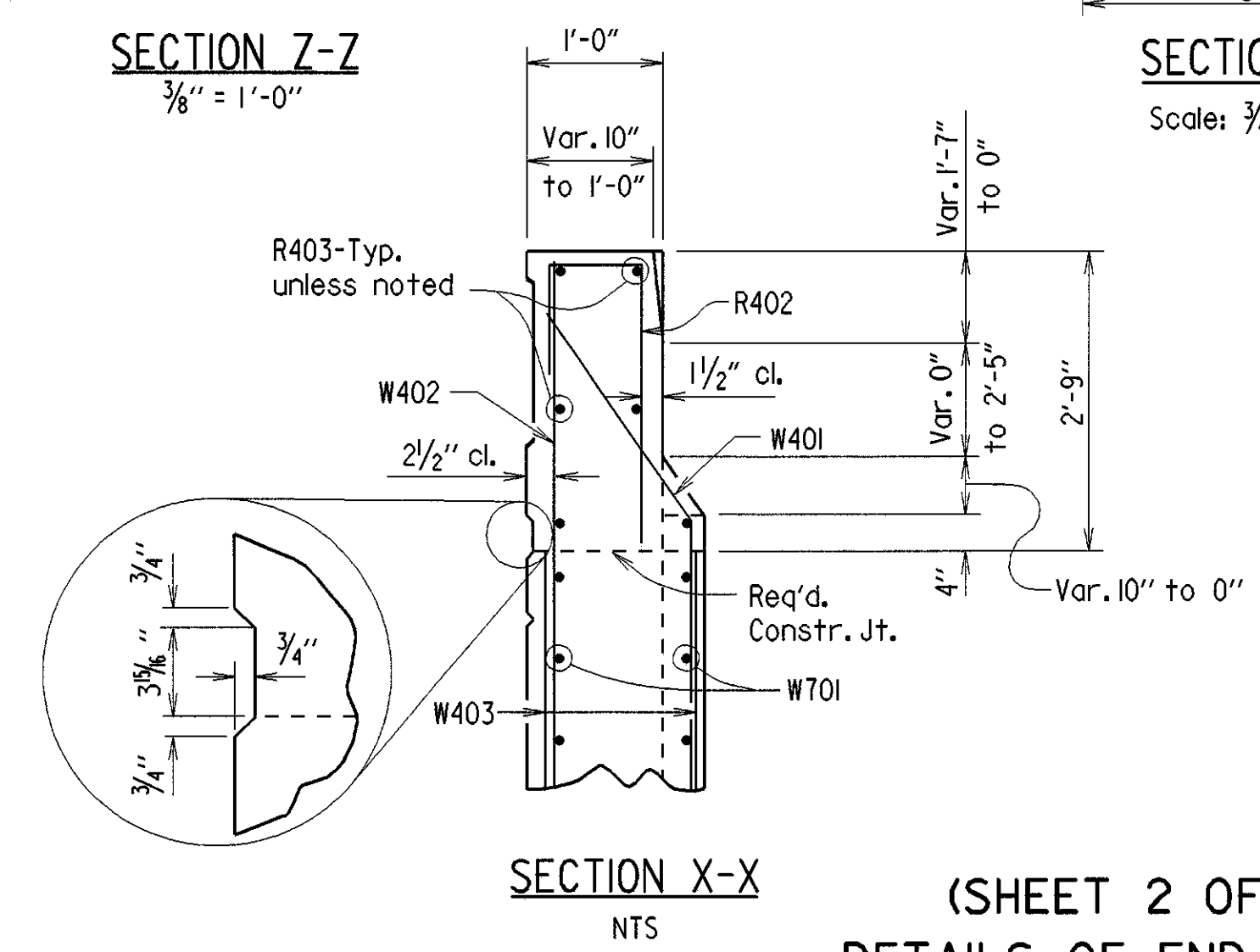
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	22	77
				06930		End Bent	44038	



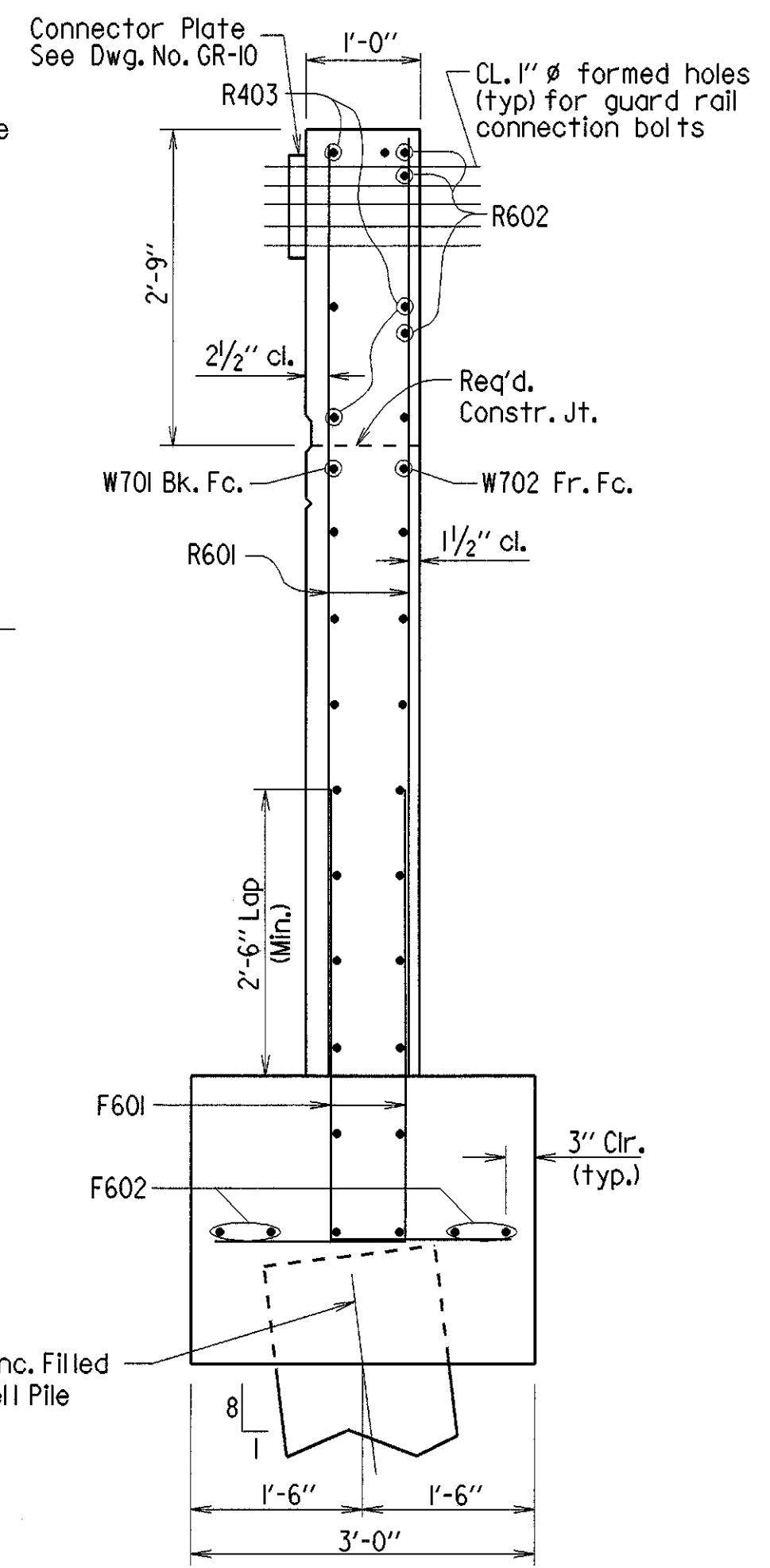
Concrete in this area shall not be placed until hand packing of concrete under joint armor is complete.



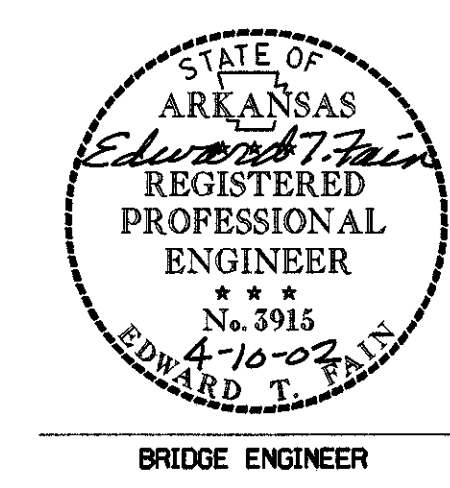
SECTION Z-Z  
3/8" = 1'-0"



SECTION X-X  
NTS



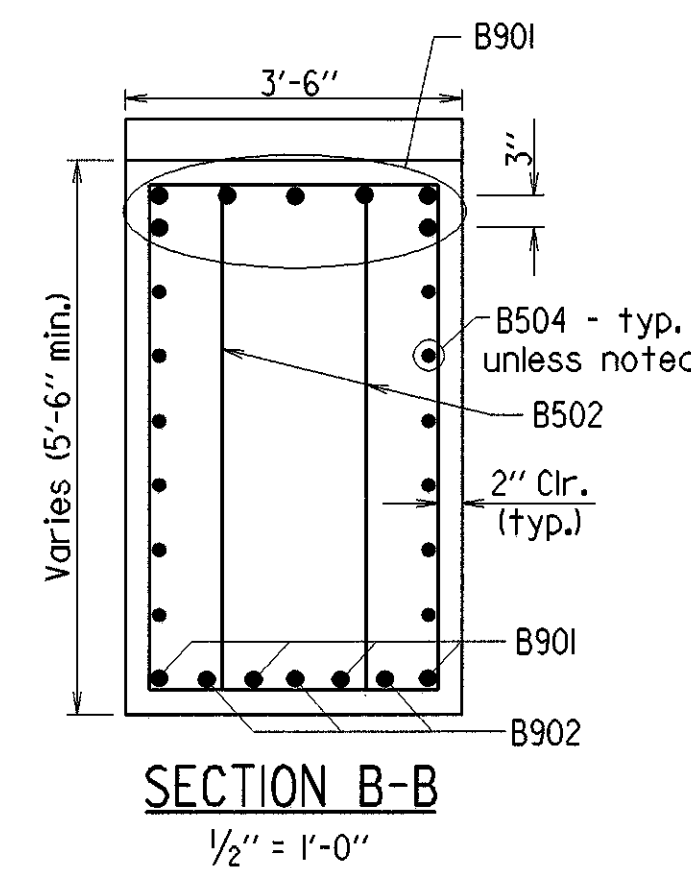
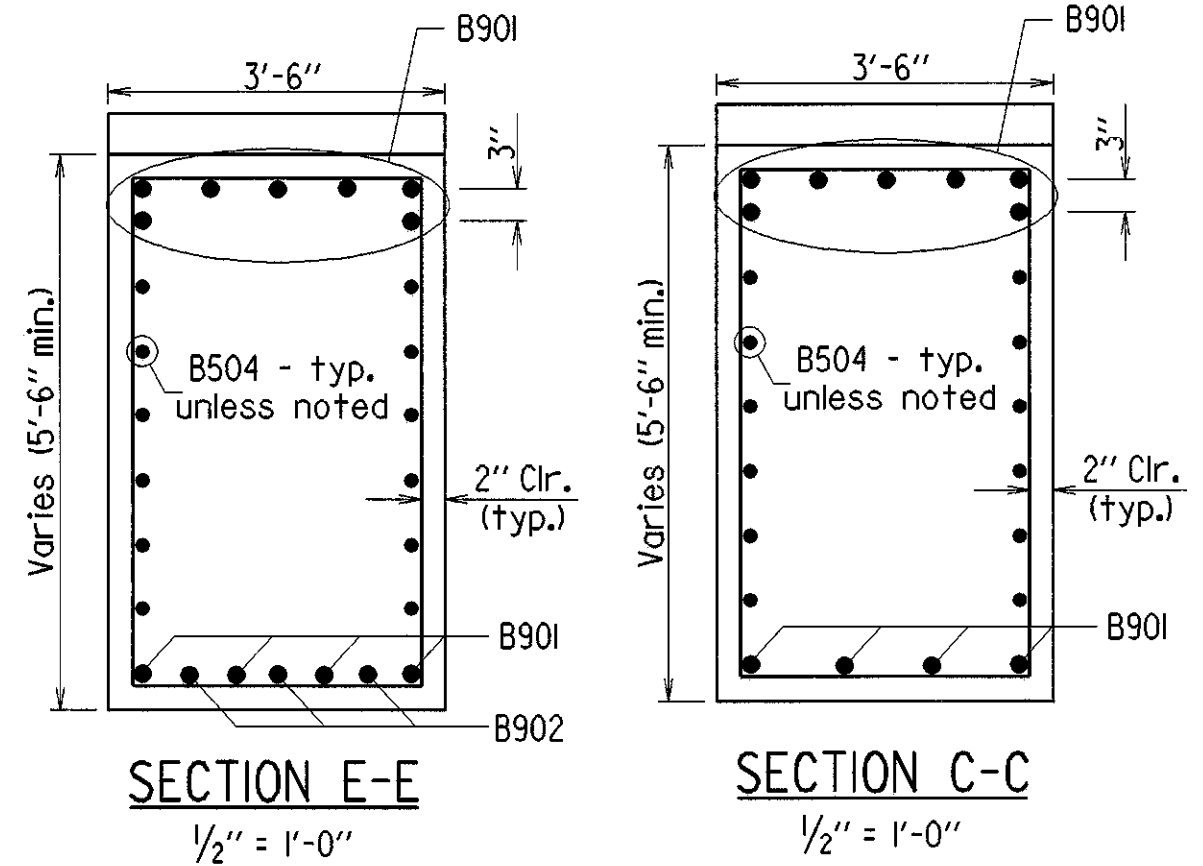
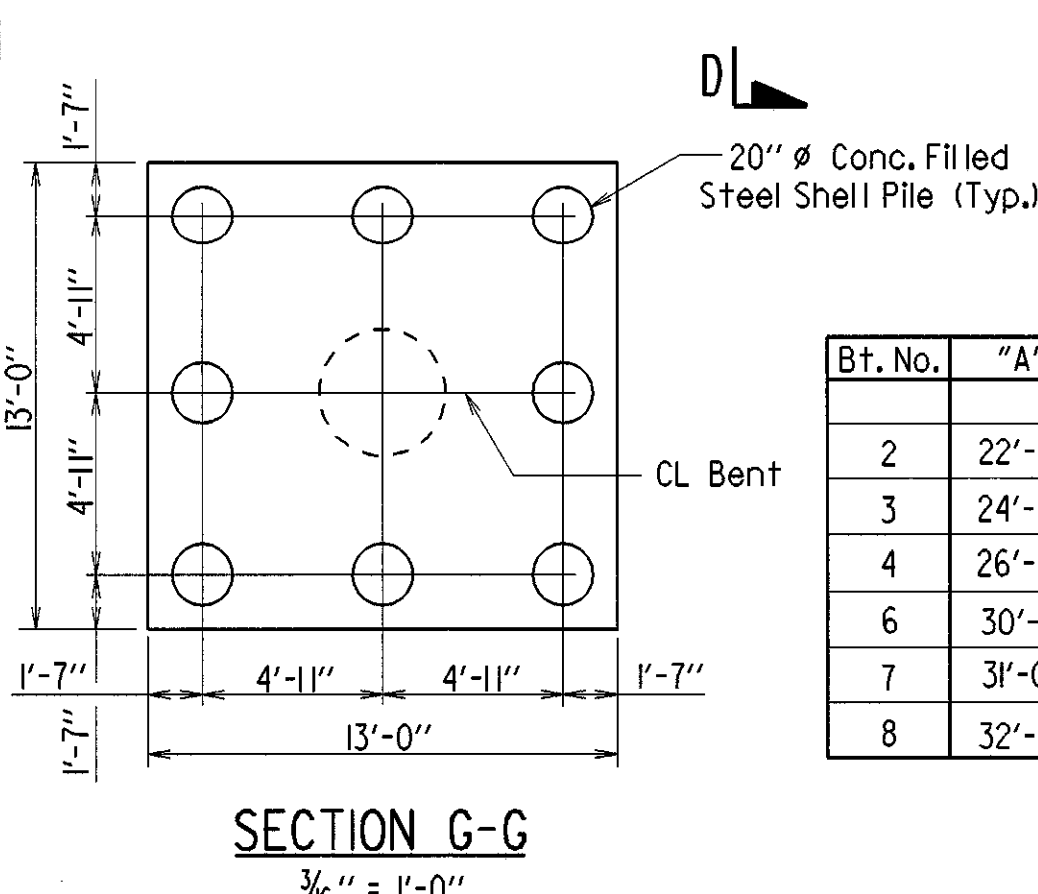
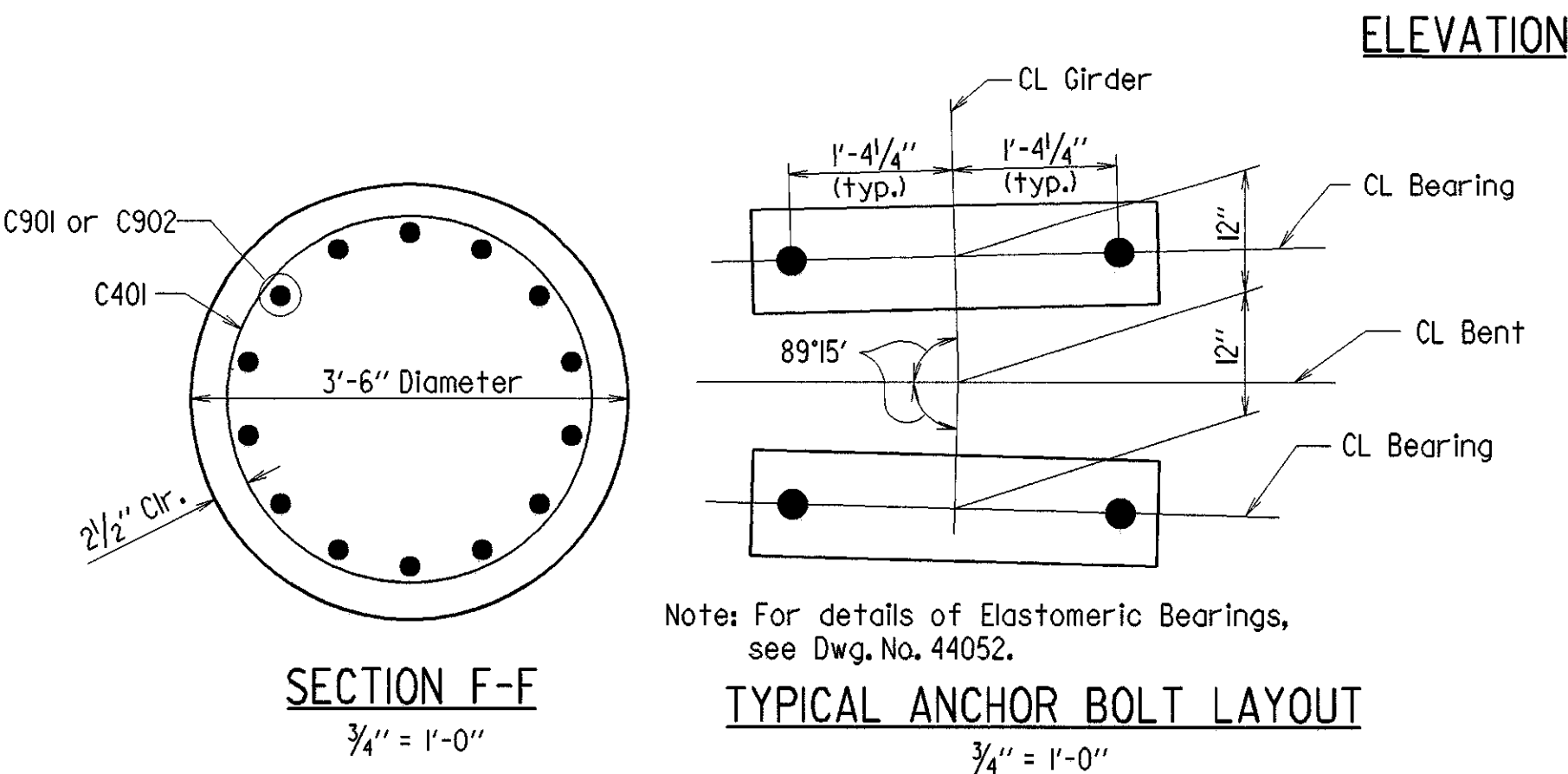
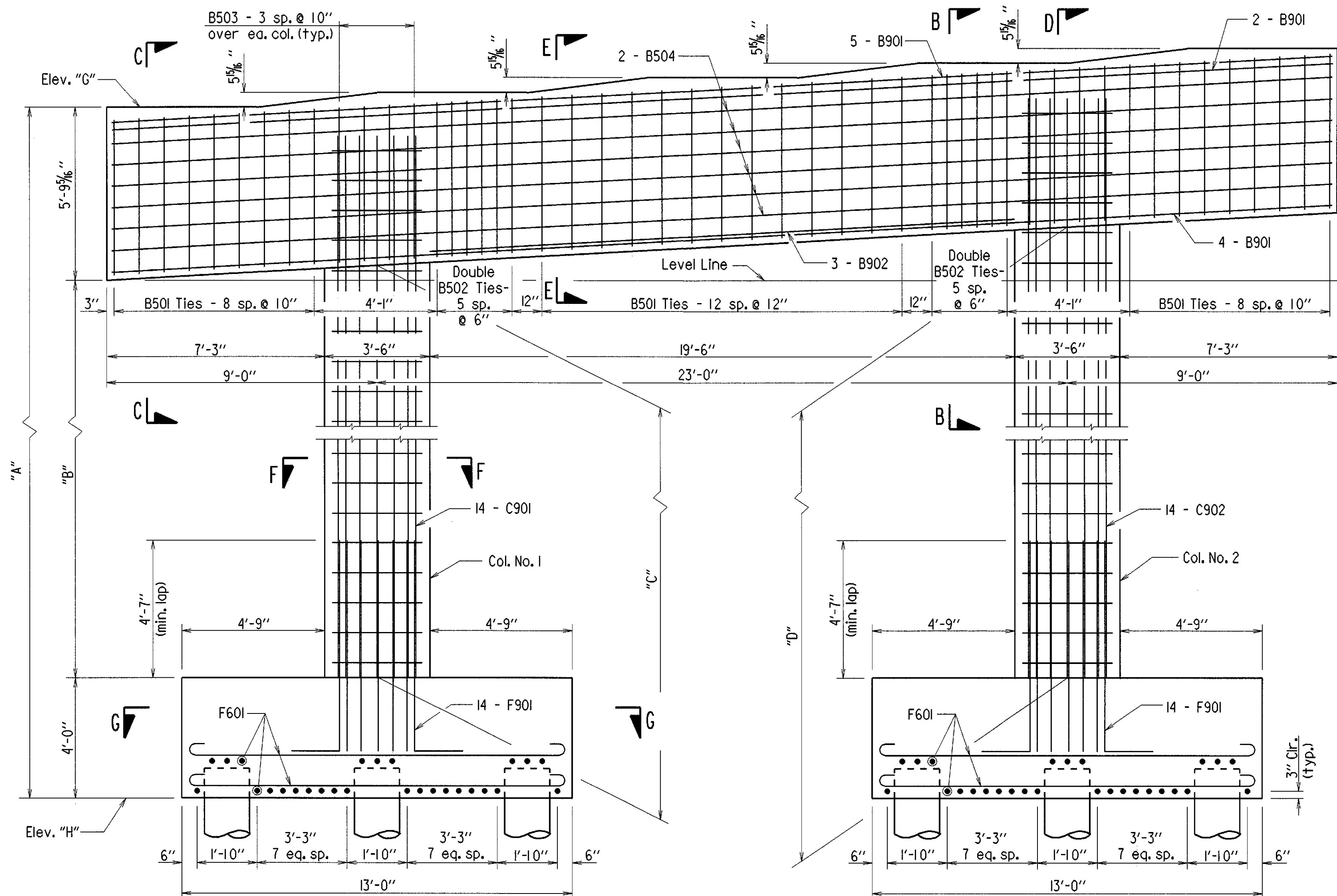
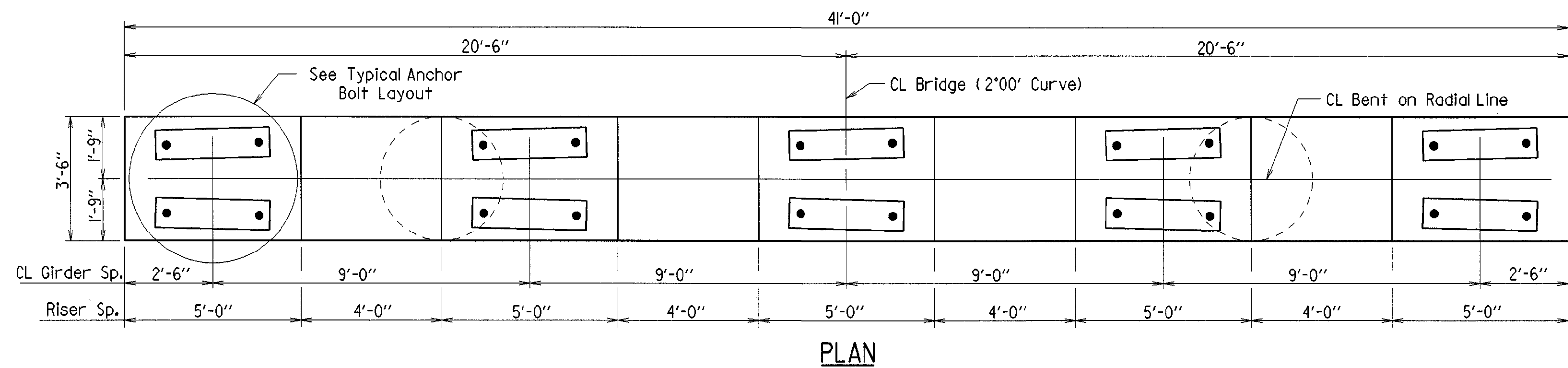
SECTION Y-Y  
Scale: 3/4" = 1'-0"



(SHEET 2 OF 2)  
DETAILS OF END BENT I  
ASHDOWN BYPASS  
LITTLE RIVER COUNTY  
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: SAT DATE: 3/5/02 FILENAME: b030264XLB1  
CHECKED BY: AMS DATE: 3-27-02 SCALE: AS NOTED  
DESIGNED BY: JAC DATE: 1-25-02  
BRIDGE NO. 06930 DRAWING NO. 44038



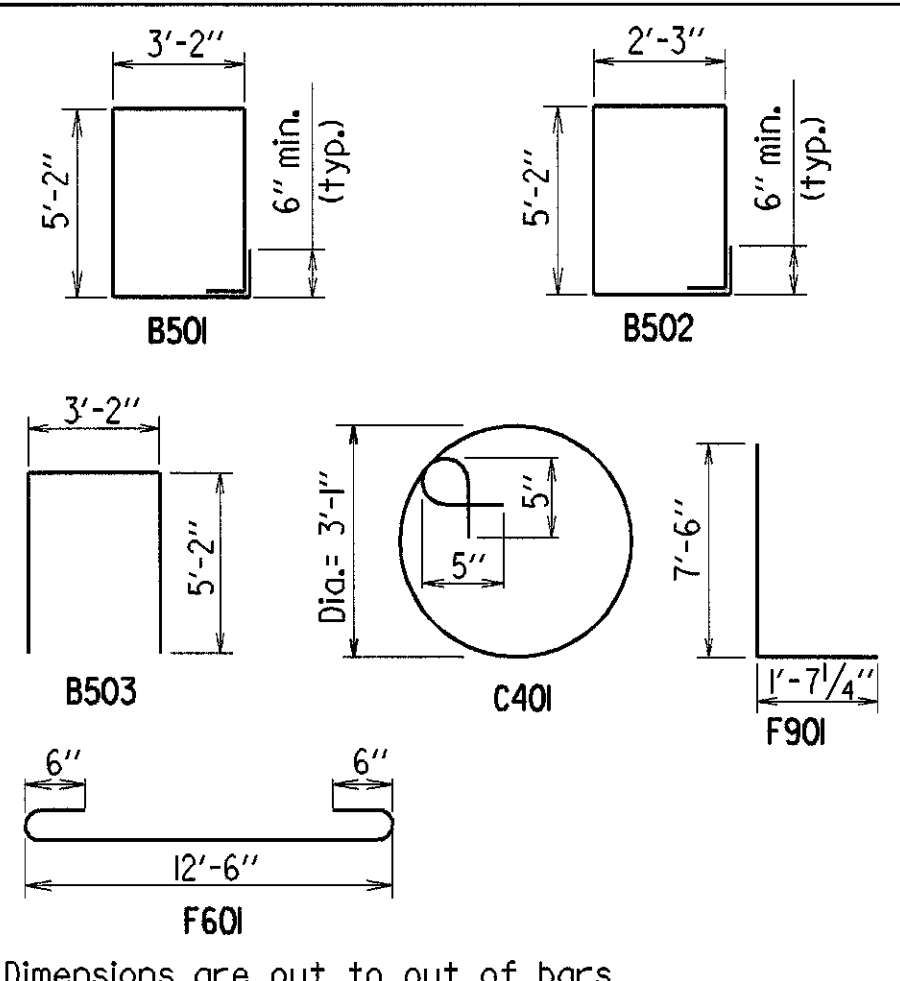
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	23	77
				06930	INT BENTS		44039	



#### BAR LIST (PER BENT)

MARK	NUMBER REQUIRED	LENGTH	PIN. DIA.
B501	31	17'-2"	2 1/2"
B502	24	15'-4"	2 1/2"
B503	8	13'-4"	2 1/2"
B504	12	40'-8"	Str.
B901	11	40'-8"	Str.
B902	3	19'-6"	Str.
C401	"E" + "F" + 14	10'-9"	3"
C901	14	"J"	Str.
C902	14	"K"	Str.
F601	108	13'-10"	4 1/2"
F901	28	8'-10"	9"

#### BENDING DIAGRAMS



#### GENERAL NOTES

All Concrete shall be Class "S" and shall be poured in the dry with a min. 28-day compression strength  $f'_c = 3500$  psi. All exposed corners to be chamfered 3/4" unless otherwise noted.

Reinforcing steel shall conform to AASHTO M 31 or M 53, Grade 60.

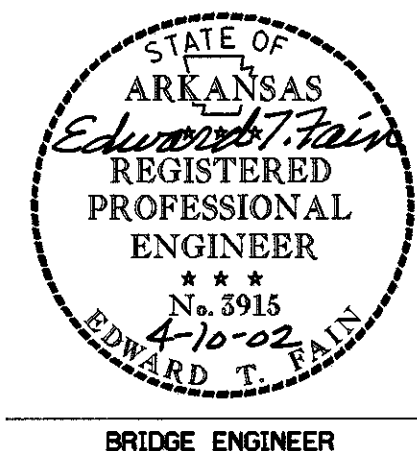
If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

Girders are placed on chords from CL Bent or Joint to CL Bent or Joint.

For additional information, See Layout.

#### TABLE OF VARIABLES

Bt. No.	"A"	"B"	"C"	"D"	"E"	"F"	Elev. "G"	Elev. "H"	"J"	"K"
2	22'-0"	12'-2 1/8"	12'-8 5/8"	13'-11 1/8"	10	12	344.35	322.35	16'-11"	18'-2"
3	24'-0"	14'-2 1/8"	14'-8 5/8"	15'-11 1/8"	12	14	346.59	322.59	18'-11"	20'-2"
4	26'-6"	16'-8 1/8"	17'-2 5/8"	18'-5 5/8"	15	16	348.63	322.13	21'-5"	22'-8"
6	30'-0"	20'-2 1/8"	20'-8 5/8"	21'-11 1/8"	18	20	351.86	321.86	24'-11"	26'-2"
7	31'-0"	21'-2 1/8"	21'-8 5/8"	22'-11 1/8"	19	21	353.05	322.05	25'-11"	27'-2"
8	32'-0"	22'-2 1/8"	22'-8 5/8"	23'-11 1/8"	20	22	353.97	321.97	26'-11"	28'-2"



#### DETAILS OF INTERMEDIATE BENTS 2, 3, 4, 6, 7, AND 8

ASHDOWN BYPASS  
LITTLE RIVER COUNTY  
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

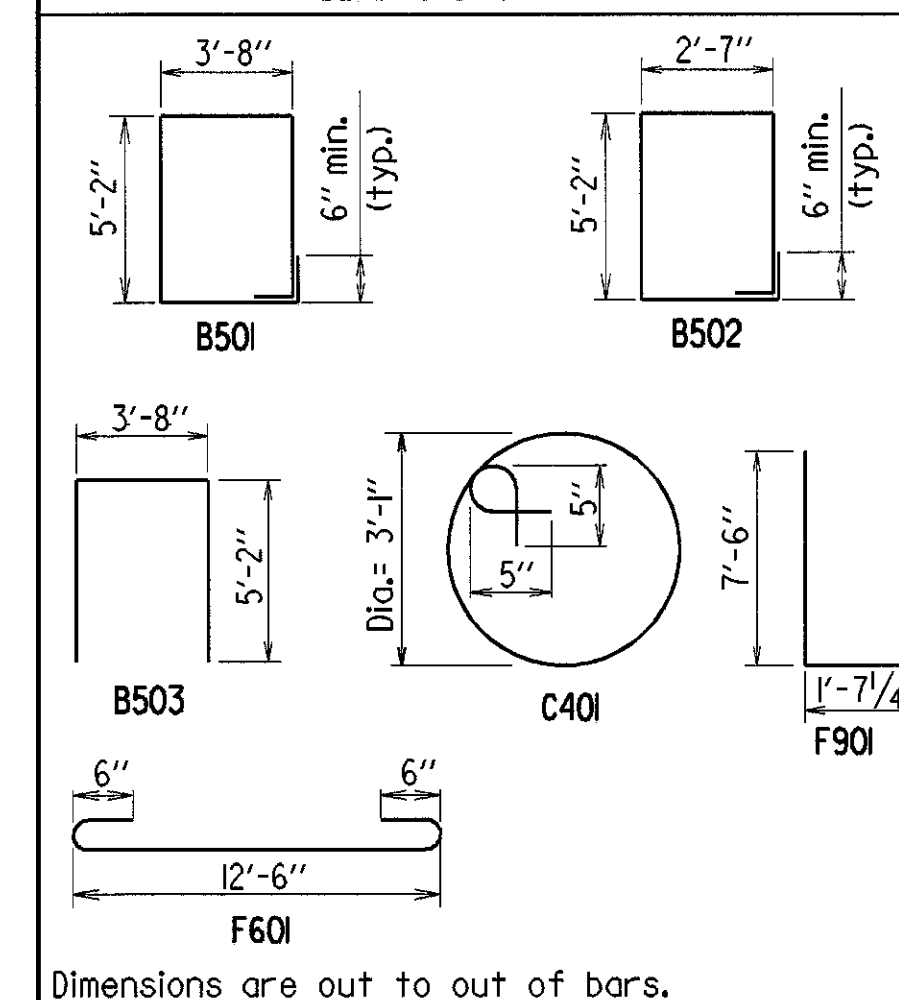
DRAWN BY: SAT DATE: 02-27-02 FILENAME: b030264X1.b2  
CHECKED BY: AMS DATE: 3-26-02 SCALE: 3/8" = 1'-0" or as noted  
DESIGNED BY: JAC DATE: 1-16-02  
BRIDGE NO. 06930 DRAWING NO. 44039

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	24	77
				06930		INT BENTS	44040	

# BAR LIST (PER BENT)

MARK	NUMBER REQUIRED	LENGTH	PIN. DIA.
B501	31	18'-2"	2 1/2"
B502	24	16'-0"	2 1/2"
B503	8	13'-10"	2 1/2"
B504	12	40'-8"	Str.
B901	11	40'-8"	Str.
B902	3	19'-6"	Str.
C401	"E" + "F" + 4	10'-9"	3"
C901	14	"J"	Str.
C902	14	"K"	Str.
F601	108	13'-10"	4 1/2"
F901	28	8'-10"	9"

## BENDING DIAGRAMS



## GENERAL NOTES

All Concrete shall be Class "S" and shall be poured in the dry with a min. 28-day compression strength  $f'_c = 3500$  psi. All exposed corners to be chamfered  $3/4"$  unless otherwise noted.

Reinforcing steel shall conform to AASHTO M 31 or M 53, Grade 60.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

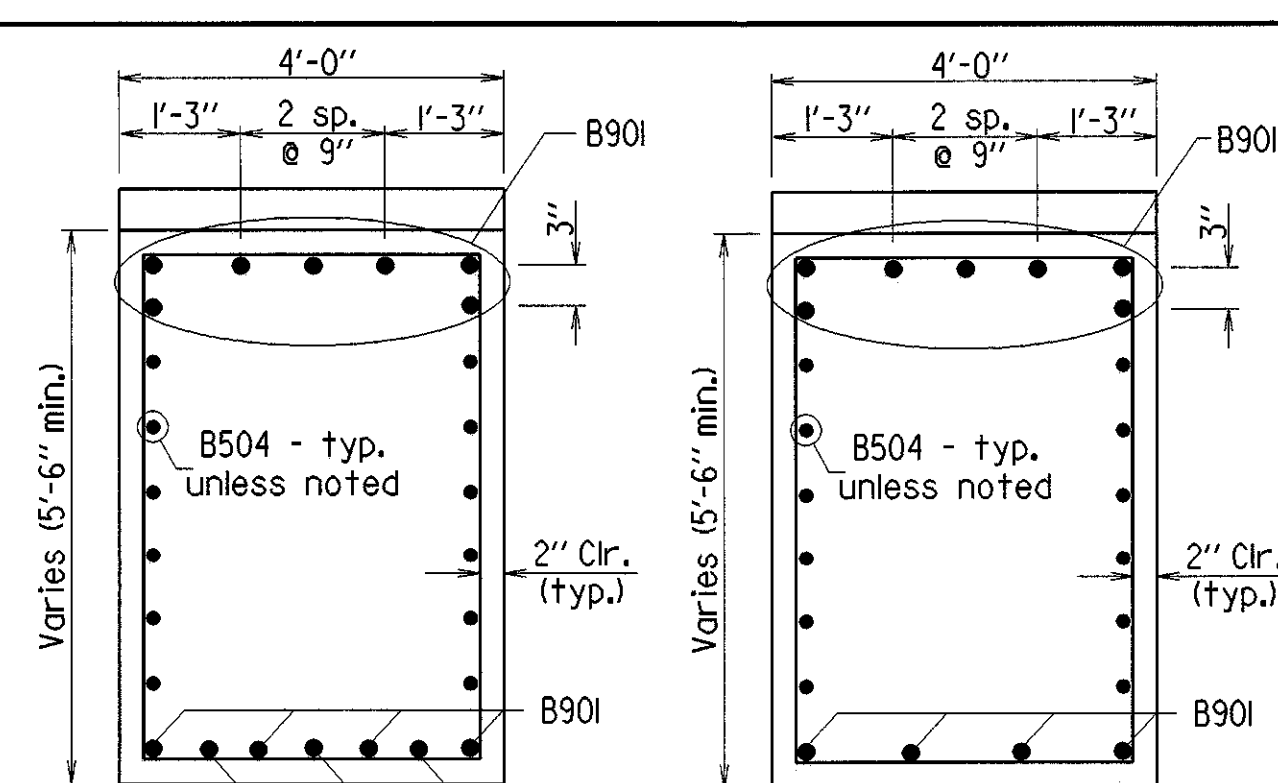
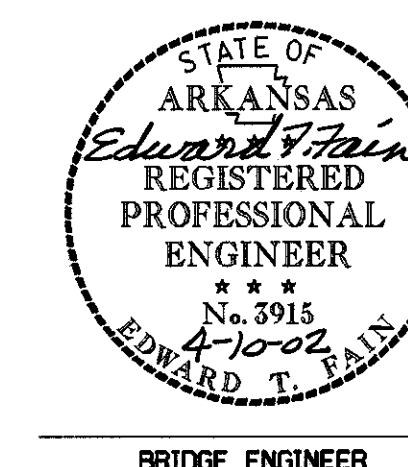
Girders are placed on chords from CL Bent or Joint to CL Bent or Joint.

For additional information, See Layout.

## DETAILS OF INTERMEDIATE BENTS 5 AND 17 ASHDOWN BYPASS LITTLE RIVER COUNTY

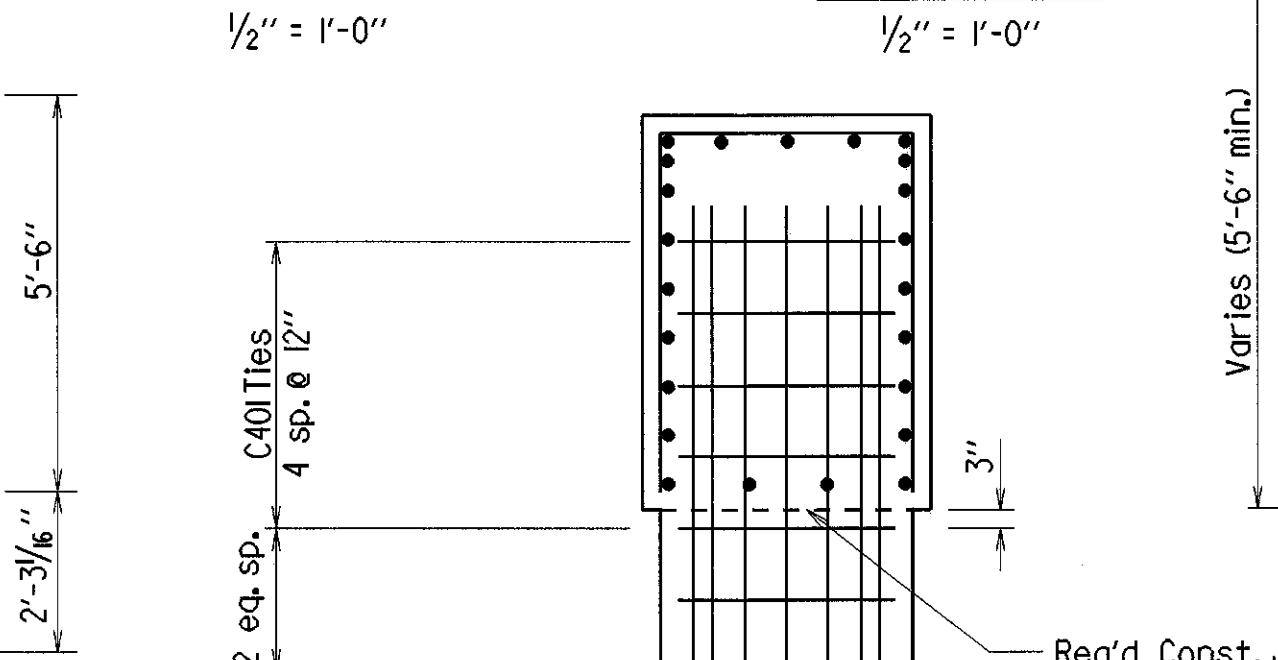
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: SAT DATE: 02-27-02 FILENAME: b030264x1.b2  
CHECKED BY: AMS DATE: 3-26-02 SCALE: 3/8" = 1'-0" or as noted  
DESIGNED BY: JAC DATE: 1-18-02  
BRIDGE NO. 06930 DRAWING NO. 44040

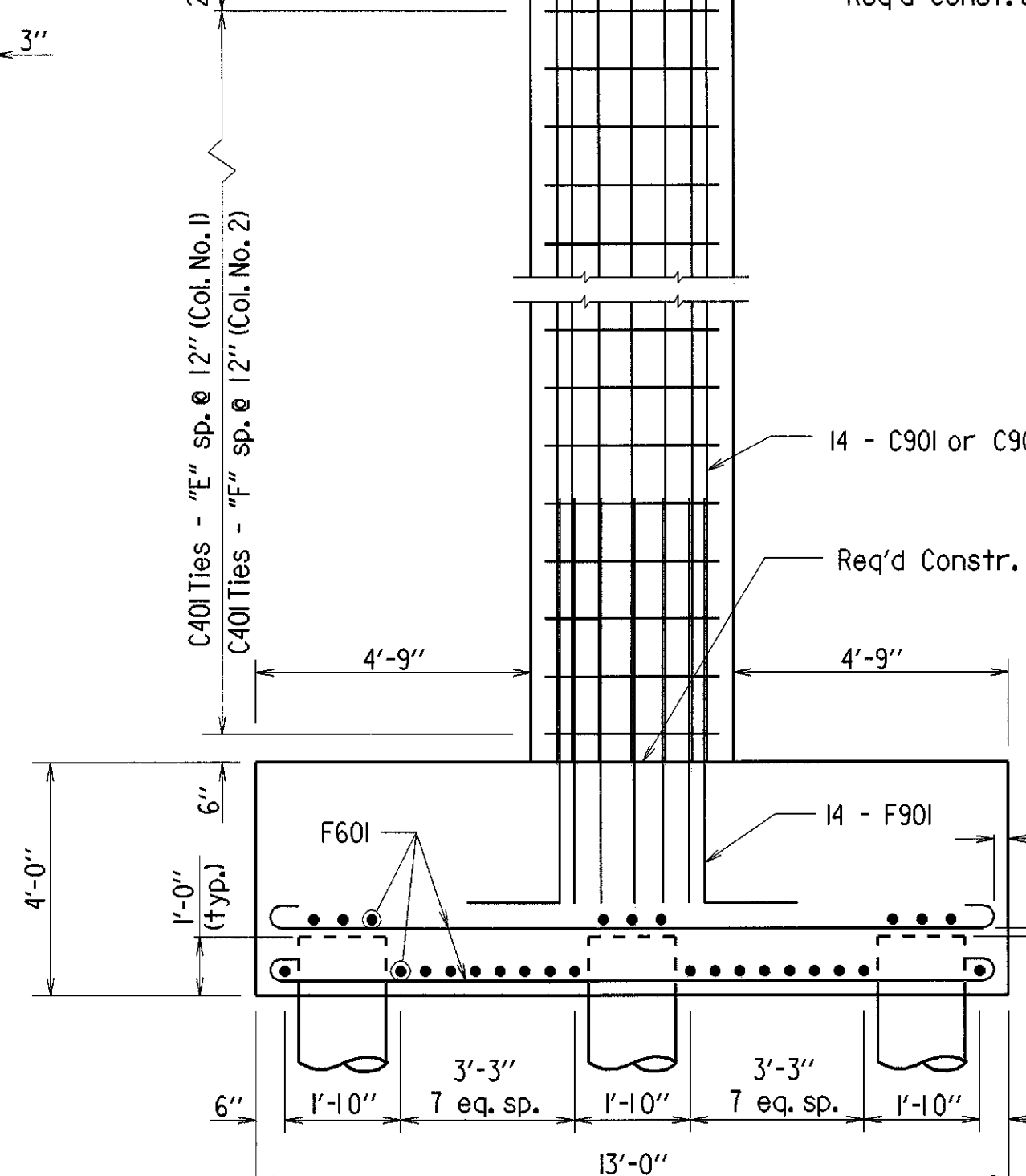


SECTION E-E  
1/2" = 1'-0"

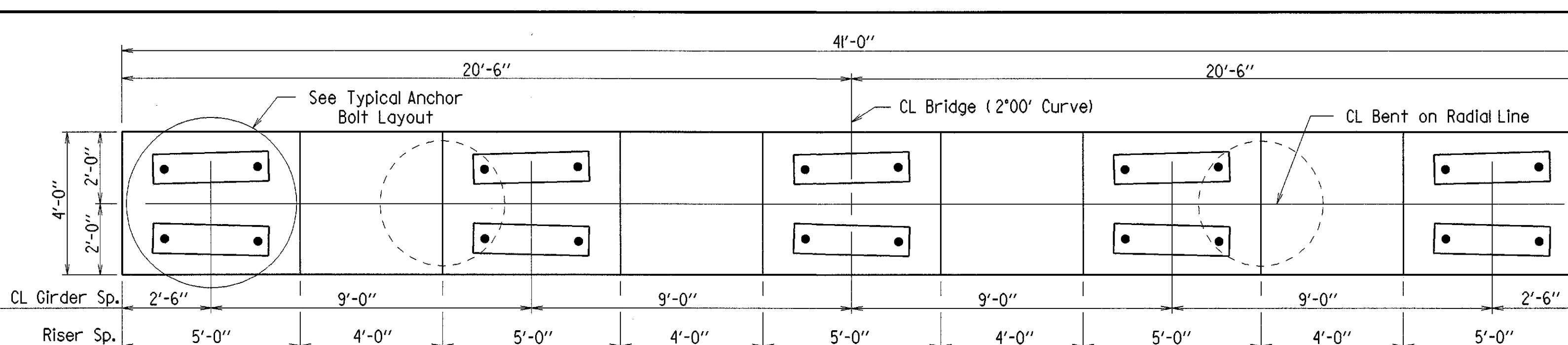
SECTION C-C  
1/2" = 1'-0"



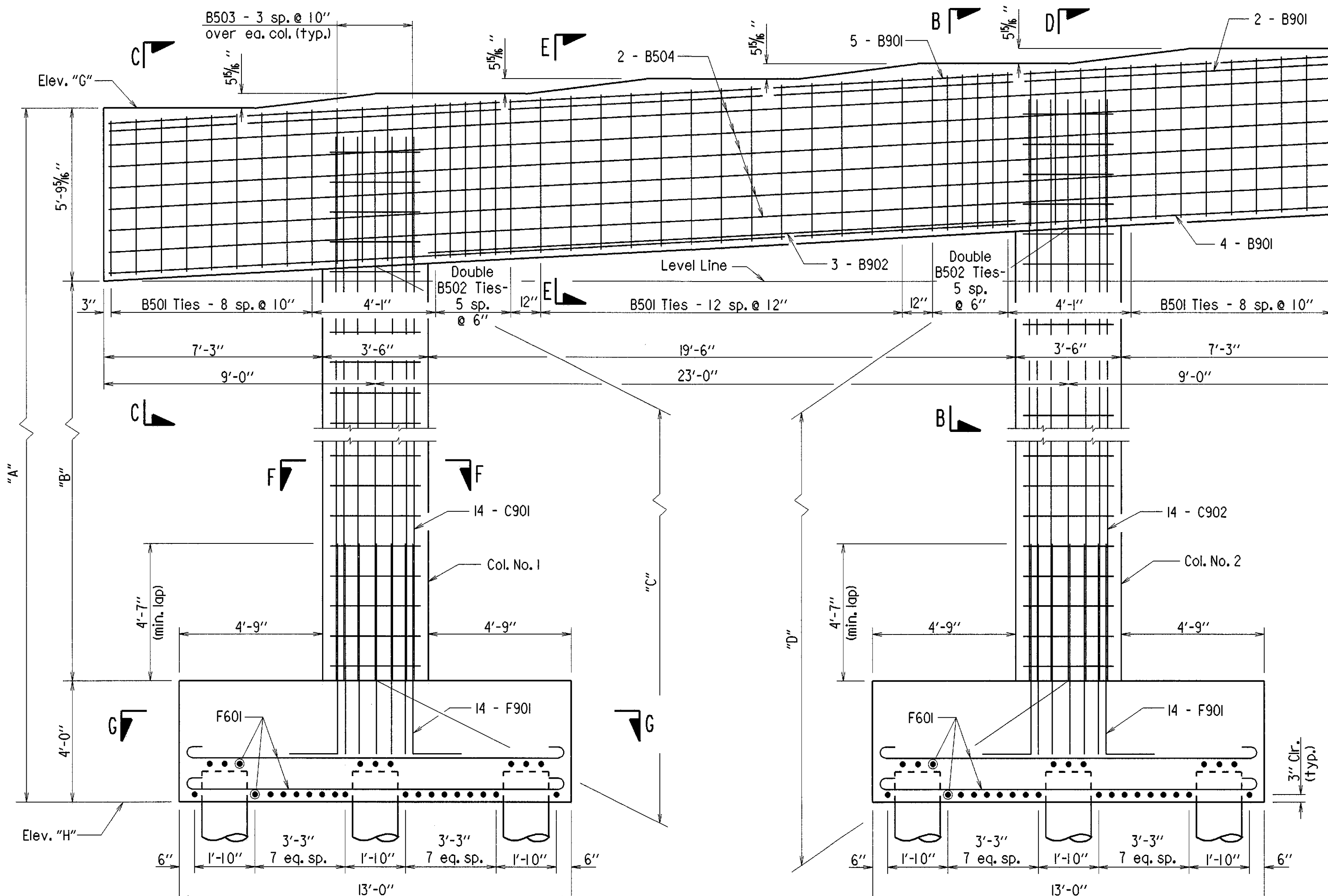
SECTION B-B  
1/2" = 1'-0"



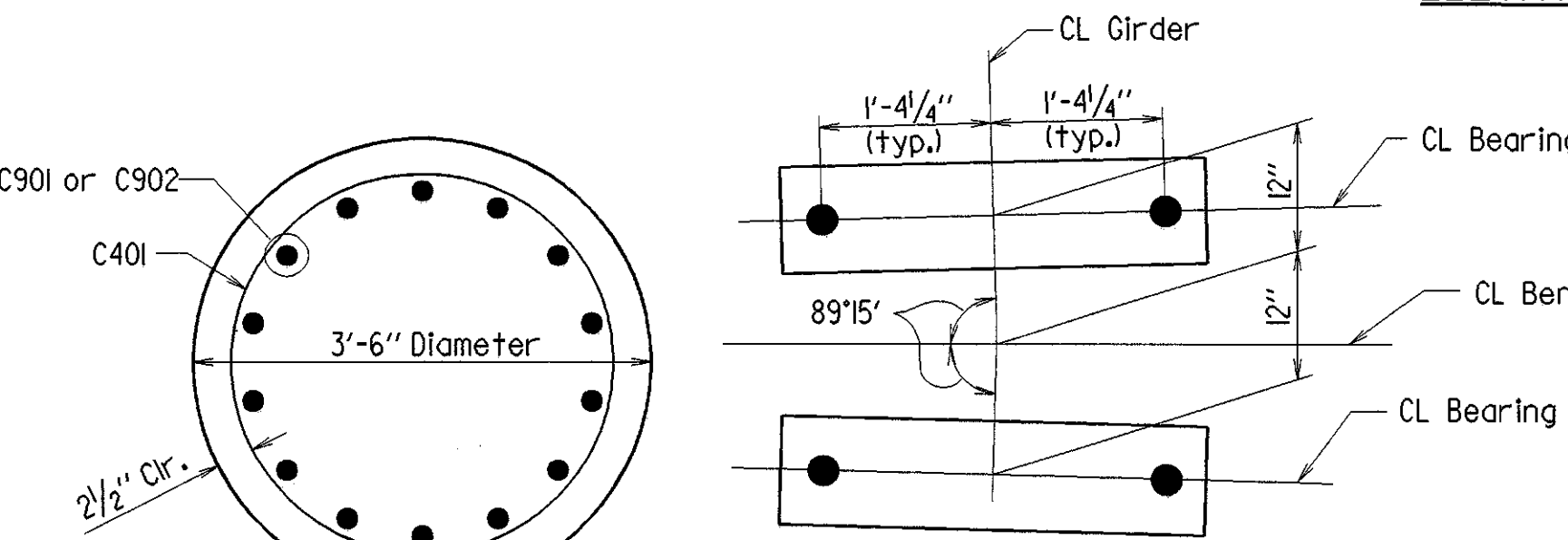
SECTION D-D



PLAN

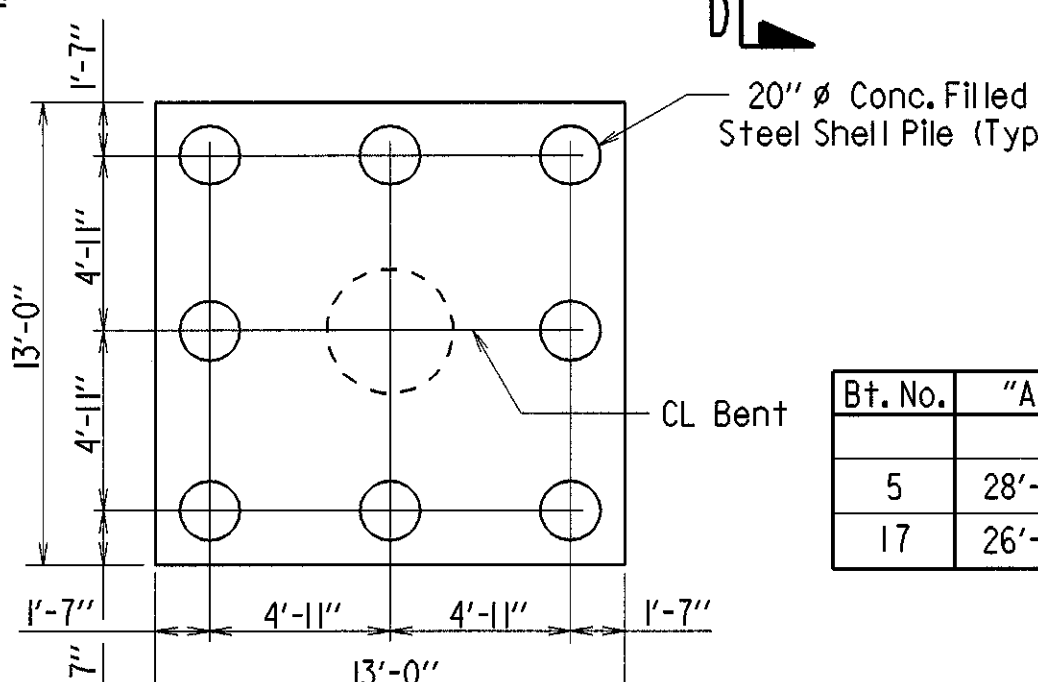


ELEVATION



SECTION F-F  
3/4" = 1'-0"

TYPICAL ANCHOR BOLT LAYOUT  
3/4" = 1'-0"



SECTION G-G  
3/8" = 1'-0"

## TABLE OF VARIABLES

Bt. No.	"A"	"B"	"C"	"D"	"E"	"F"	Elev. "G"	Elev. "H"	"J"	"K"
5	28'-6"	18'-8 1/8"	19'-2 5/8"	20'-5 1/8"	17	18	350.38	321.88	23'-5"	24'-9"
17	26'-6"	16'-8 1/8"	17'-2 5/8"	18'-5 1/8"	15	16	347.98	321.48	21'-5"	22'-9"

Note: For details of Elastomeric Bearings, see Dwg. No. 44052.



BAR LIST - PER BENT

### GENERAL NOTES

Design Specifications : AASHTO Standard Specifications for Highway Bridges (1996 edition ) with interim specifications.

Concrete shall be Class "S" with a minimum 28 day compressive strength of  $f'_c = 3500$  psi and shall be poured in the dry. All exposed corners to be chamfered  $\frac{3}{4}"$  unless otherwise noted.

Reinforcing steel shall conform to AASHTO M 31 or M 53, Grade 60.

If Anchor Bolts are drilled into Cap, Top Reinforcing Bars shall be properly placed to avoid damage.

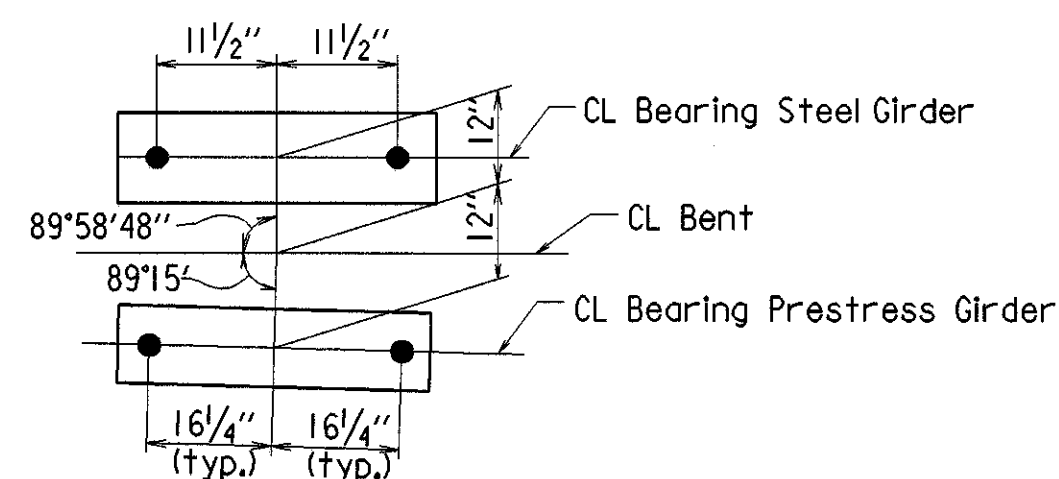
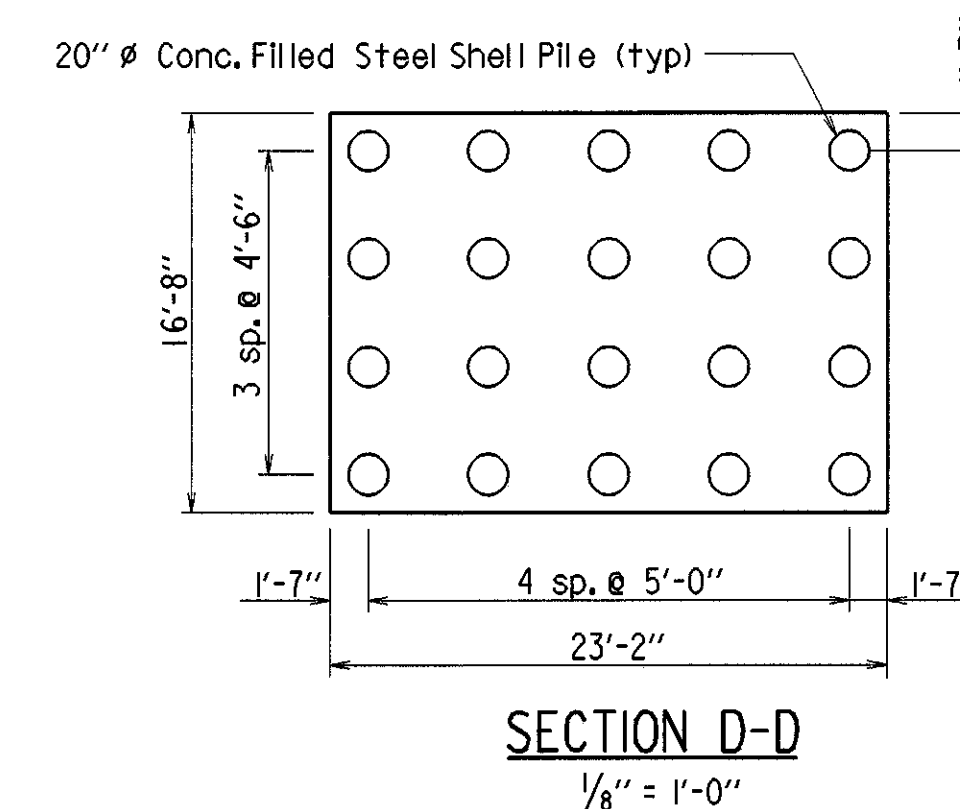
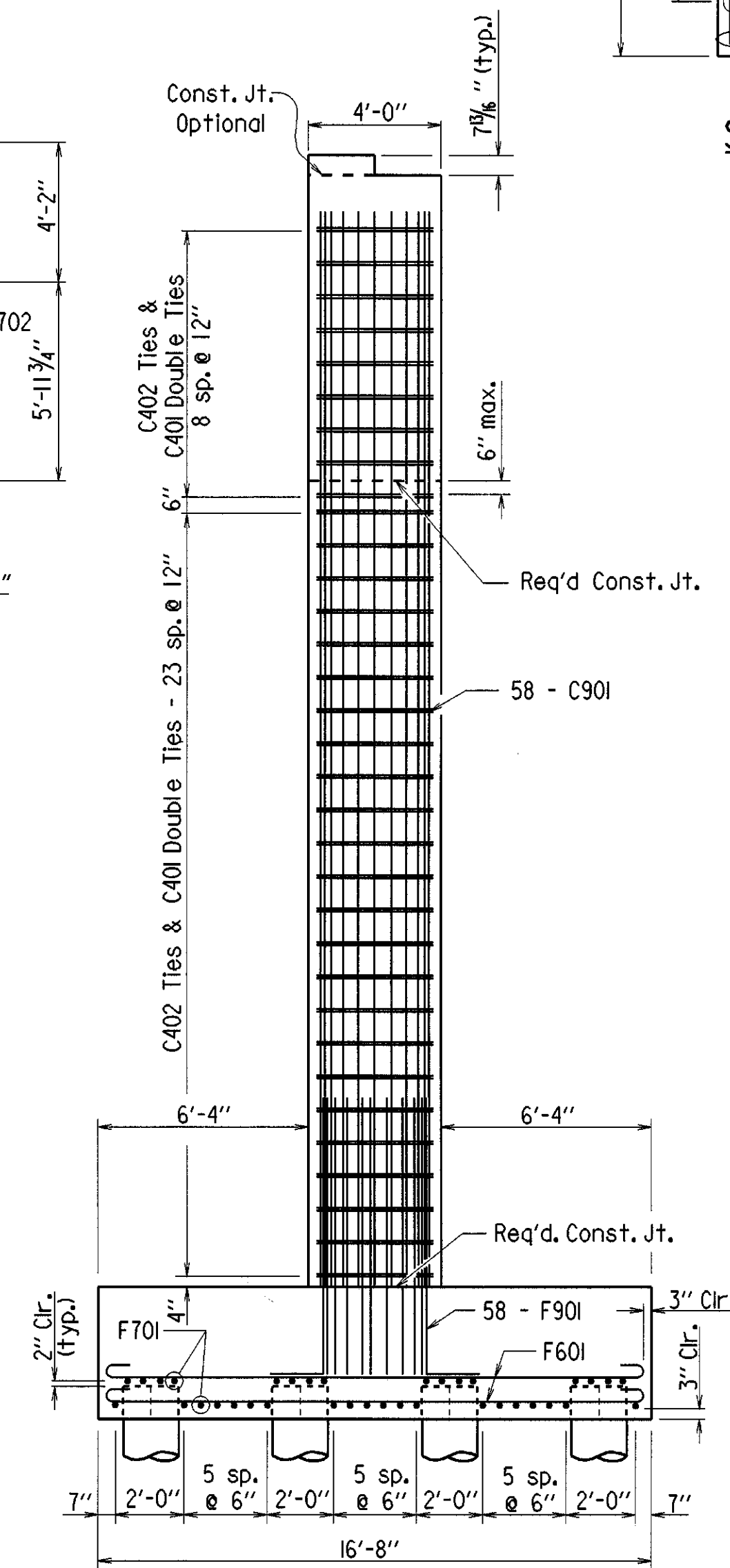
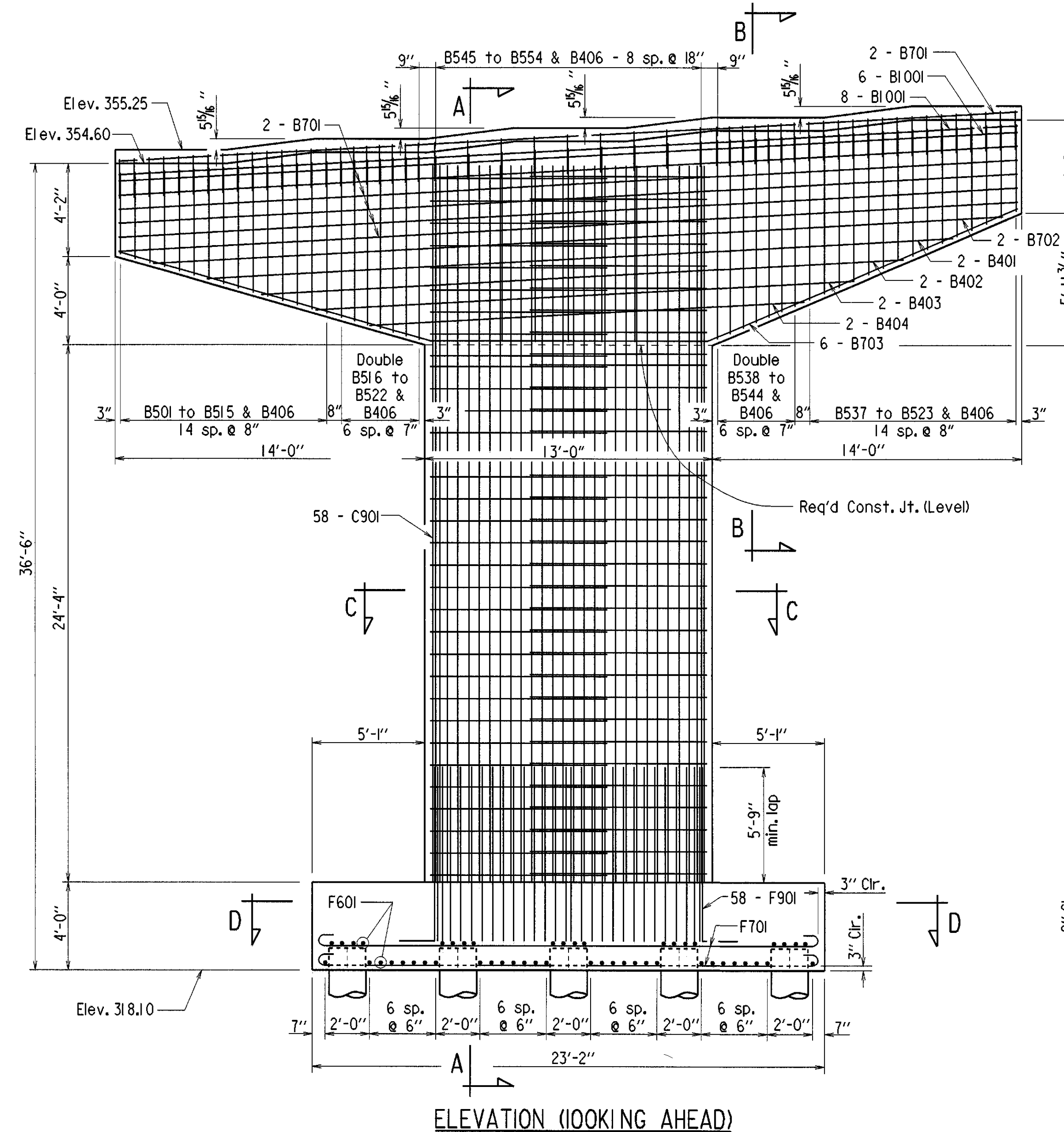
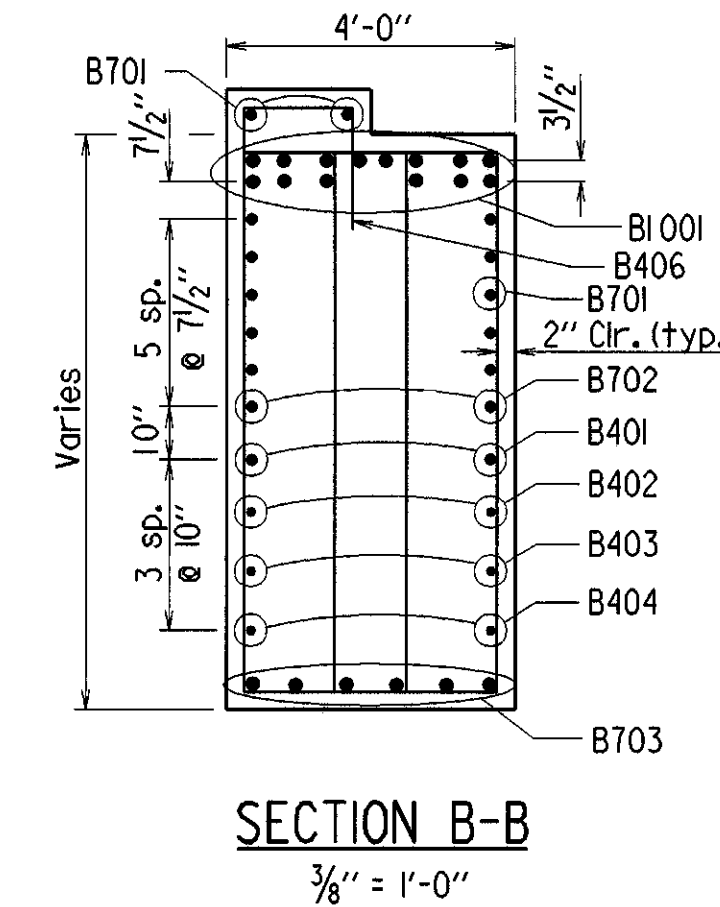
Prestressed Girders are placed on chords from CL Bent or Joint to CL Bent or Joint.

DETAILS OF INTERMEDIATE BENT 9  
ASHDOWN BYPASS  
LITTLE RIVER COUNTY

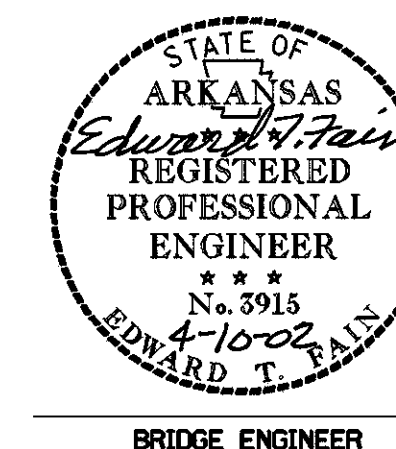
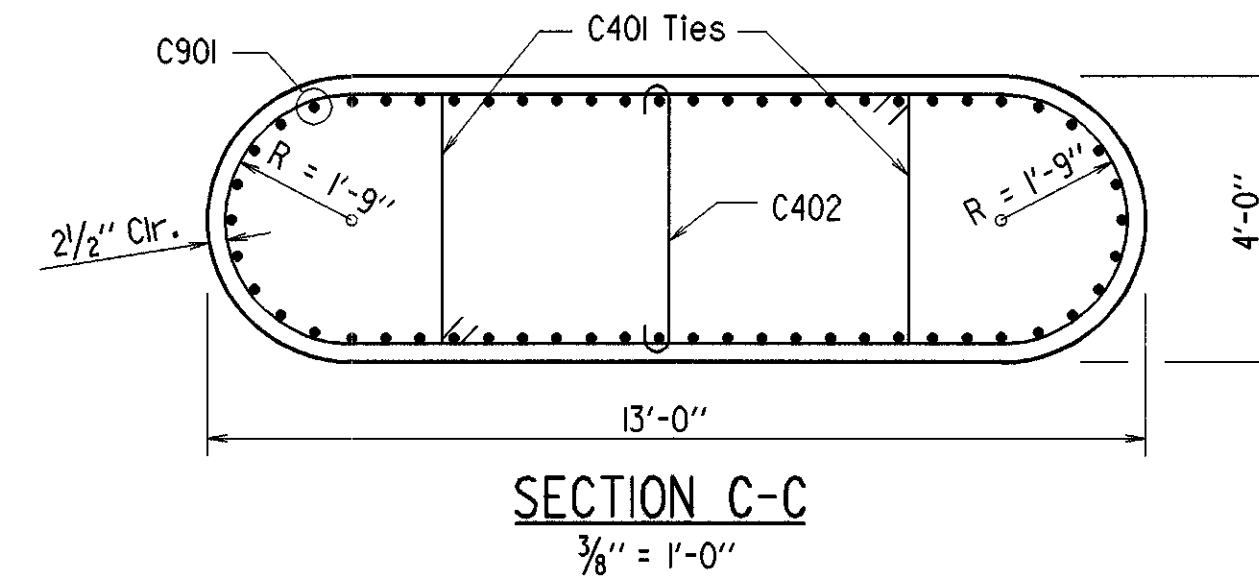
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: SAT DATE: 3-28-02 FILENAME: b030264X2.b2  
 CHECKED BY: CES DATE: 4-10-02 SCALE: 1/4" = 1'-0" or  
 DESIGNED BY: JAC DATE: 3-02 as noted.

BRIDGE NO. 06930 DRAWING NO. 44041

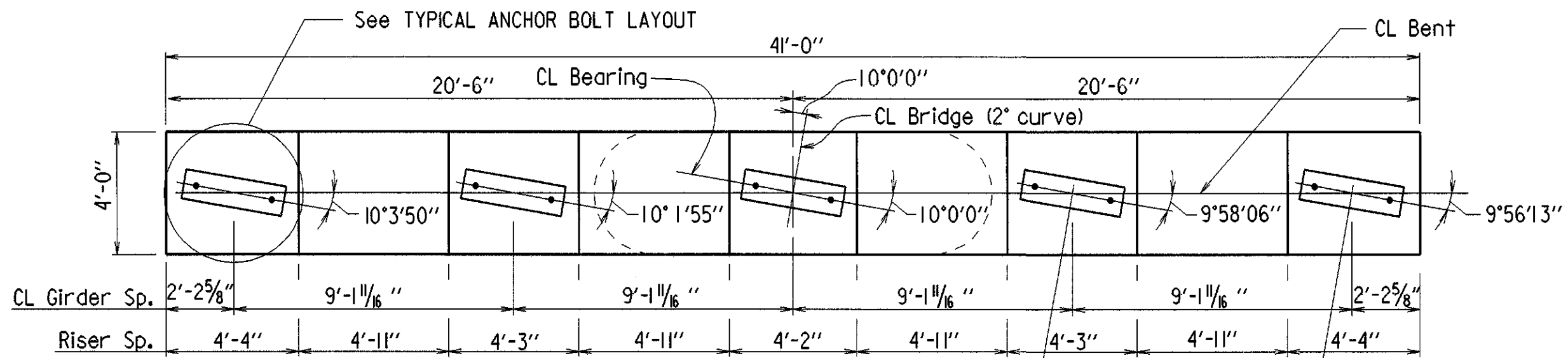


Note: For details of Elastomeric Bearing,  
see Dwg. No. 44059 and 44052

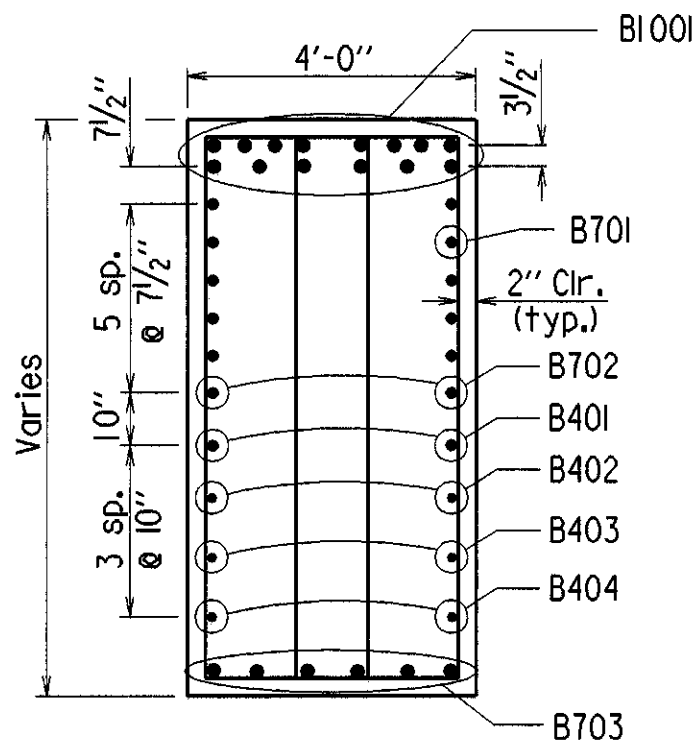


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	26	77
				06930	INT BENTS		44042	

①



PLAN (LOOKING AHEAD)



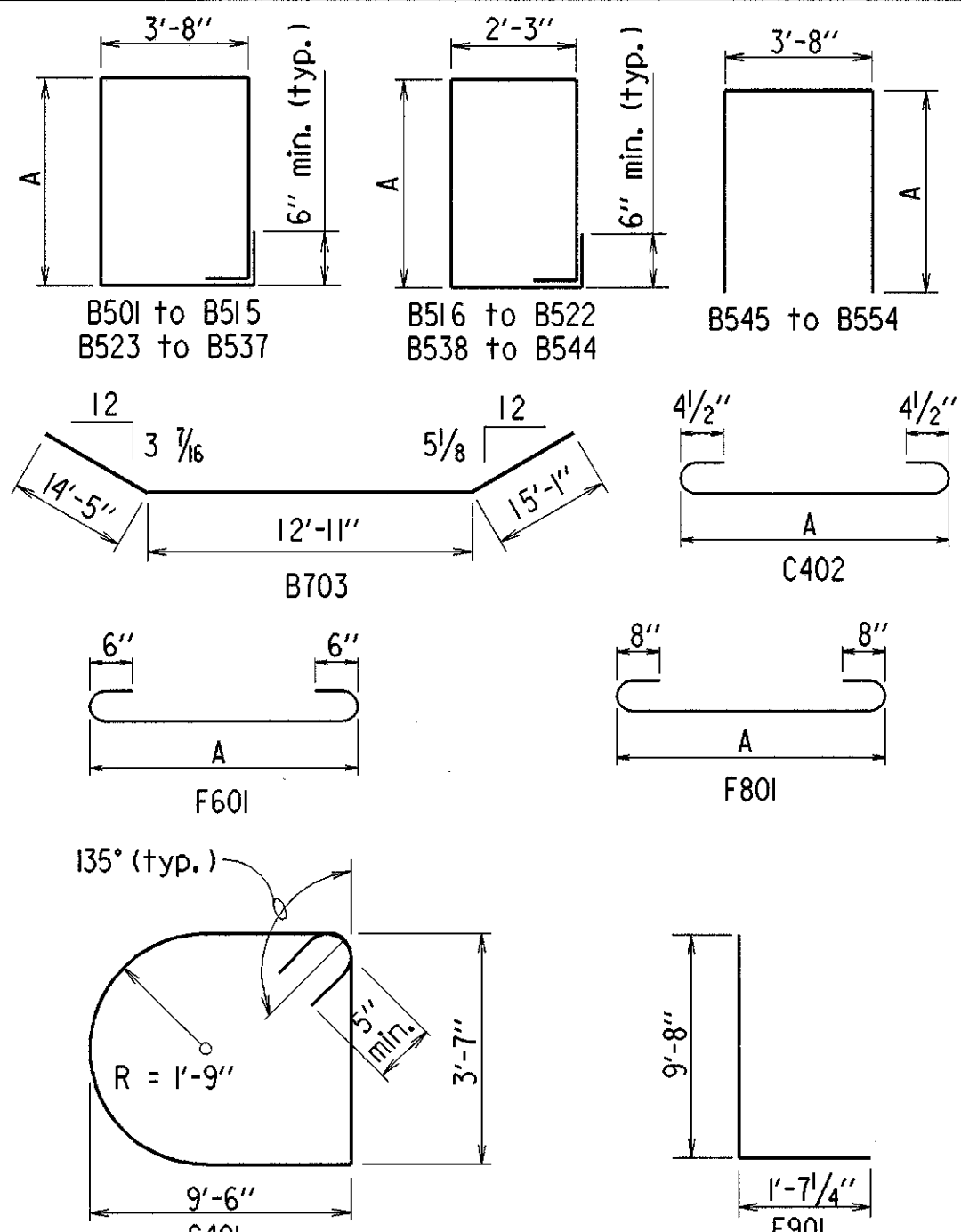
SECTION B-B

3/8" = 1'-0"

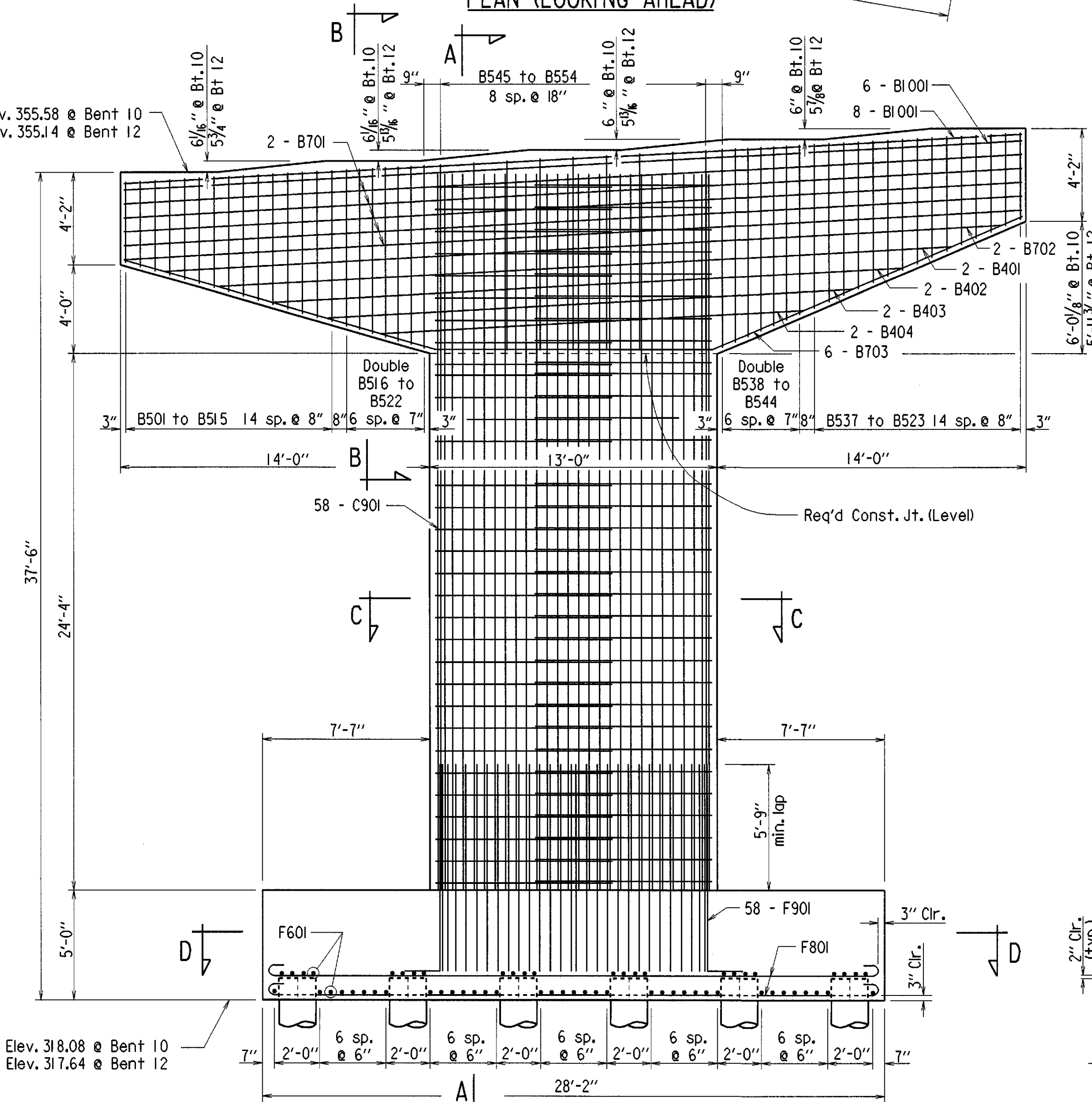
BAR LIST - PER BENT

MARK	NO. REQ'D	A	LENGTH	P.D.
B401 to B404	2 each		32'-10" to 18'-10"	Str.
B501 to B515	1 each	3'-7 1/2" to 6'-9 1/2"	15'-1" to 21'-5"	2 1/2"
B516 to B522	2 each	7'-0 1/2" to 8'-2 1/2"	19'-1" to 21'-5"	2 1/2"
B523 to B537	1 each	3'-10 1/2" to 7'-4 1/2"	15'-7" to 22'-7"	2 1/2"
B538 to B544	2 each	7'-7 1/2" to 8'-11"	20'-3" to 22'-10"	2 1/2"
B545 to B554	1 each	8'-4" to 9'-0"	20'-2" to 21'-6"	2 1/2"
B701	10		40'-8"	Str.
B702	2		37'-6"	Str.
B703	6		42'-5"	5 1/4"
B1001	14		40'-8"	Str.
C401	66		25'-3"	3"
C402	33	3'-7"	4'-7"	3"
C901	58		32'-4"	Str.
F601	61	16'-2"	17'-6"	4 1/2"
F801	36	27'-8"	29'-6"	6"
F901	58		11'-0"	9"

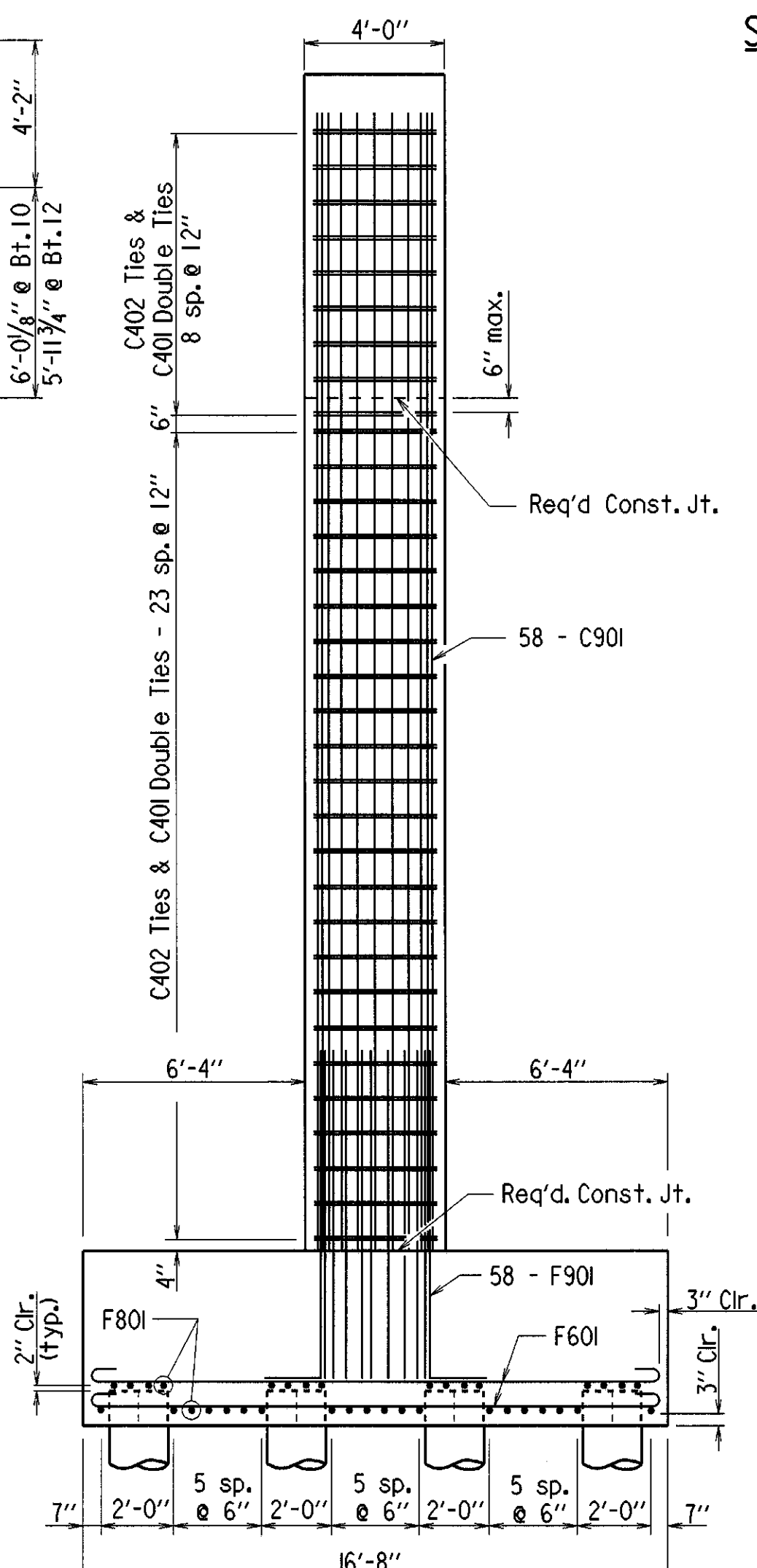
BENDING DIAGRAMS



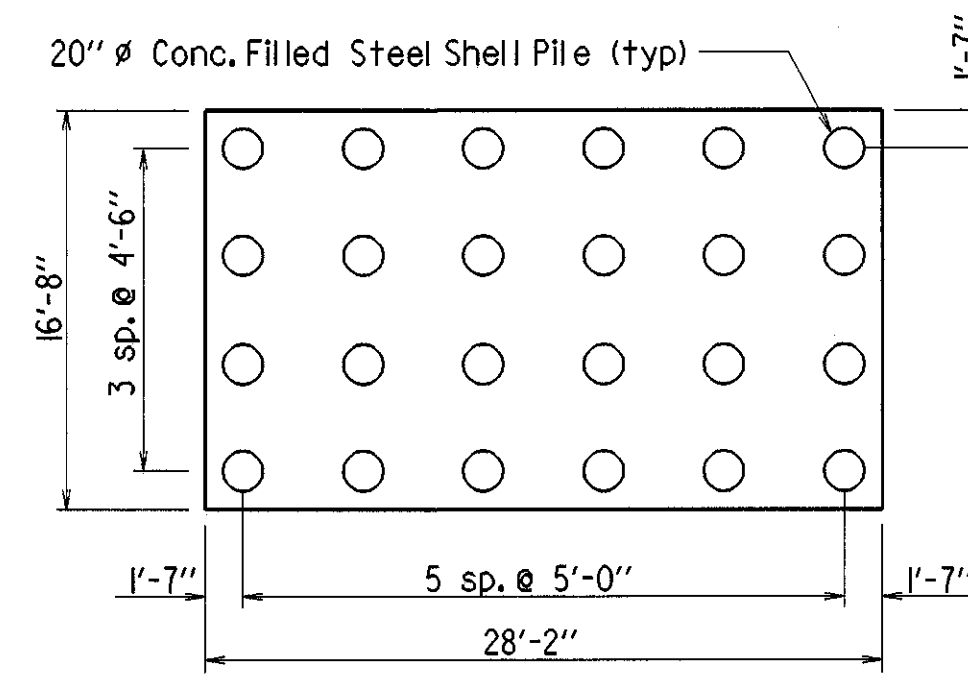
Dimensions are out to out of bars.



ELEVATION (LOOKING AHEAD)

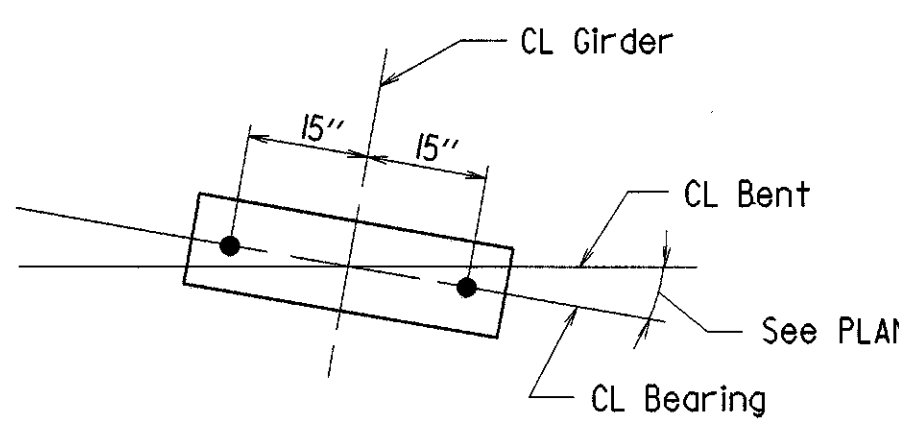


SECTION A-A



SECTION D-D

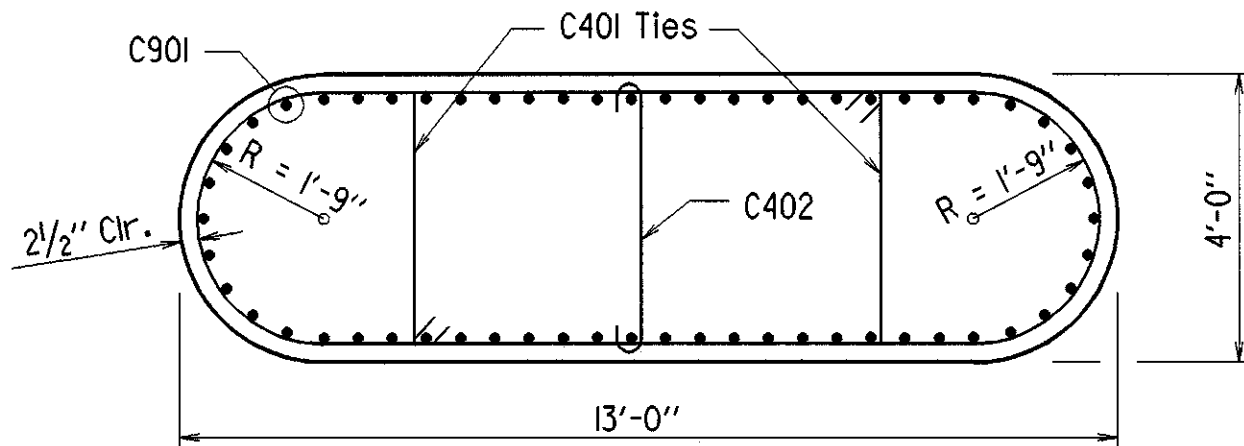
1/8" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT

Note: For details of Elastomeric Bearing, see Dwg. No. 44059

1/2" = 1'-0"



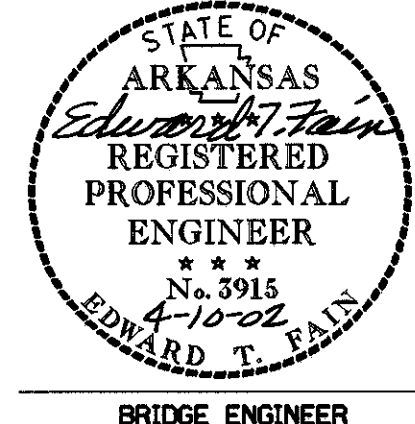
SECTION C-C

3/8" = 1'-0"

DETAILS OF INTERMEDIATE BENTS 10 AND 12  
ASHDOWN BYPASS  
LITTLE RIVER COUNTY

ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: SAT DATE: 3-28-02 FILENAME: b030264X2.b2  
CHECKED BY: CES DATE: 4-10-02 SCALE: 1/4" = 1'-0" or  
DESIGNED BY: JAC DATE: 3-02 as noted.  
BRIDGE NO. 06930 DRAWING NO. 44042







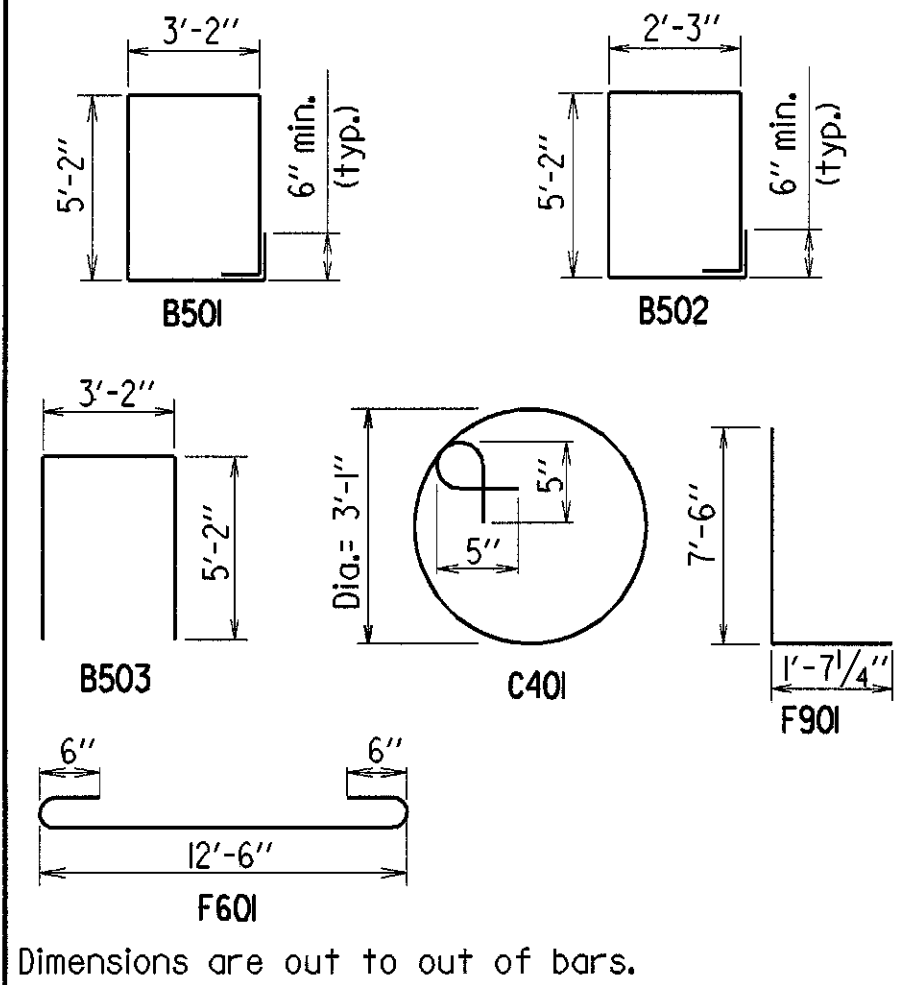


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	030264		29	77
				06930	INT BENTS		44045	

BAR LIST (PER BENT)

MARK	NUMBER REQUIRED	LENGTH	PIN. DIA.
B501	31	17'-2"	2 1/2"
B502	24	15'-4"	2 1/2"
B503	8	13'-4"	2 1/2"
B504	12	40'-8"	Str.
B901	11	40'-8"	Str.
B902	3	19'-6"	Str.
C401	"E"+"F"+14	10'-9"	3"
C901	14	"J"	Str.
C902	14	"K"	Str.
F601	108	13'-10"	4 1/2"
F901	28	8'-10"	9"

BENDING DIAGRAMS



GENERAL NOTES  
All Concrete shall be Class "S" and shall be poured in the dry with a min. 28-day compression strength  $f'_c = 3500$  psi. All exposed corners to be chamfered  $\frac{3}{4}$ " unless otherwise noted.

Reinforcing steel shall conform to AASHTO M 31 or M 53, Grade 60.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

Girders are placed on chords from CL Bent or Joint to CL Bent or Joint.

For additional information, See Layout.

DETAILS OF  
INTERMEDIATE BENTS 14, 15,  
16, 18, 19 AND 20  
ASHDOWN BYPASS  
LITTLE RIVER COUNTY  
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: SAT DATE: 02-27-02 FILENAME: b030264XLb2  
CHECKED BY: JAC DATE: 3-26-02 SCALE: 3/8" = 1'-0" or  
DESIGNED BY: JAC DATE: 1-16-02 as noted  
BRIDGE NO. 06930 DRAWING NO. 44045

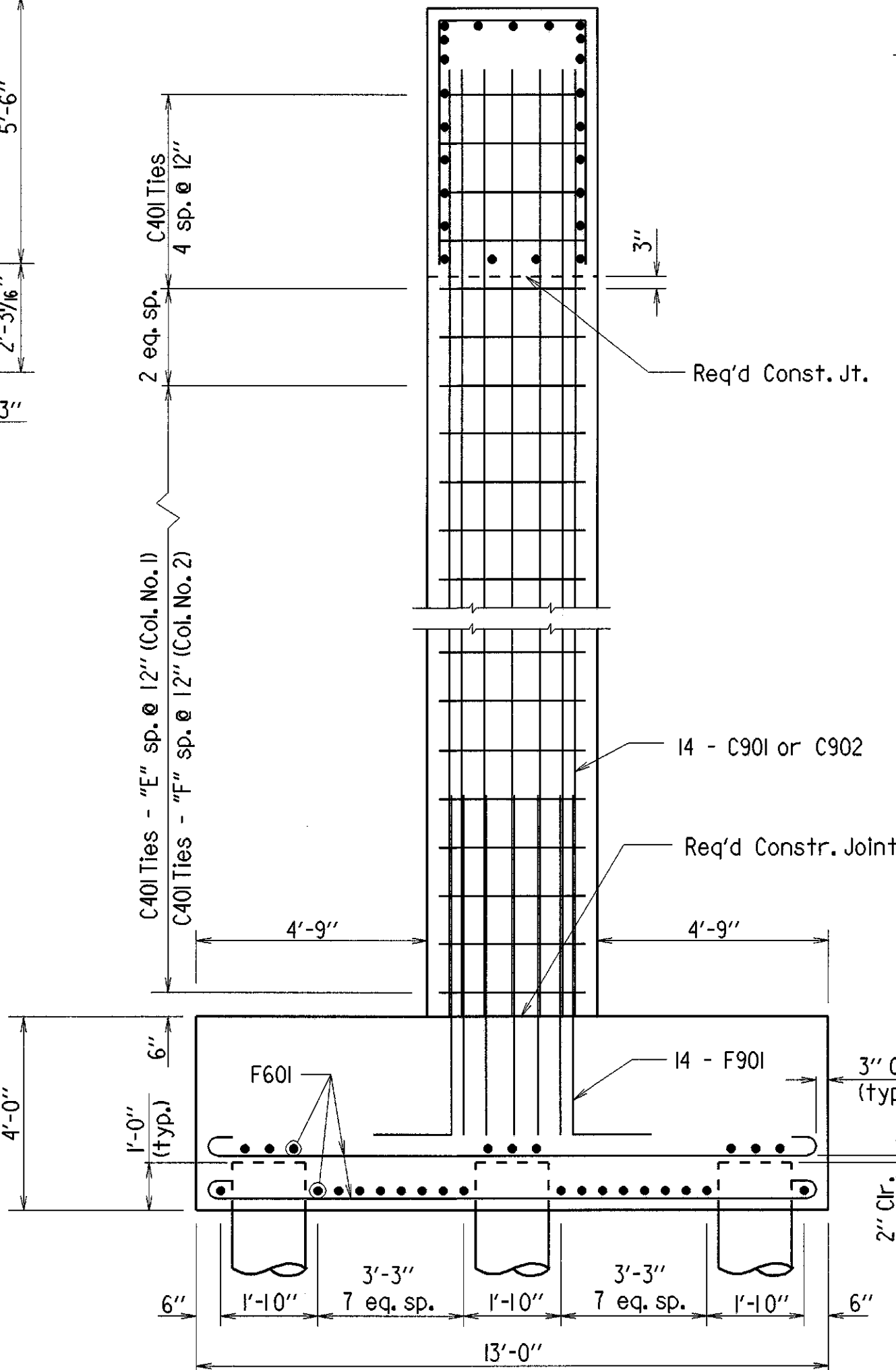
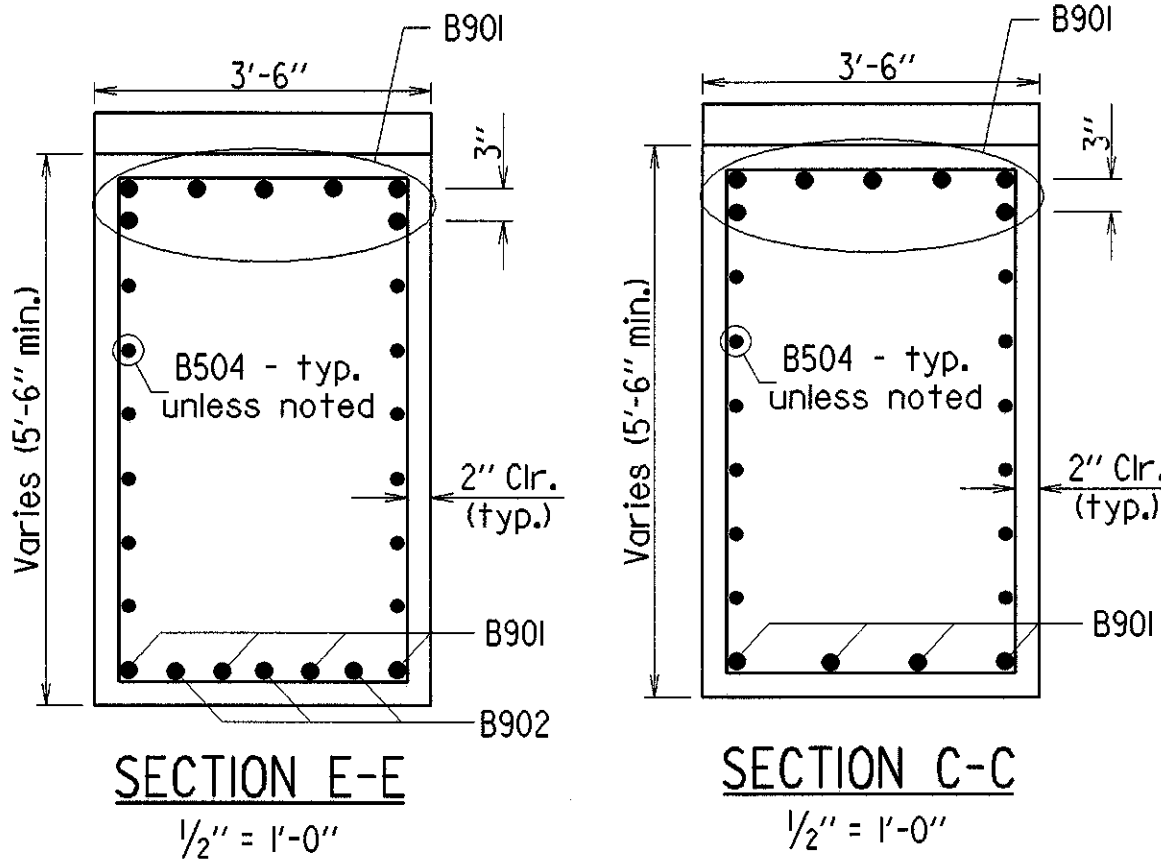
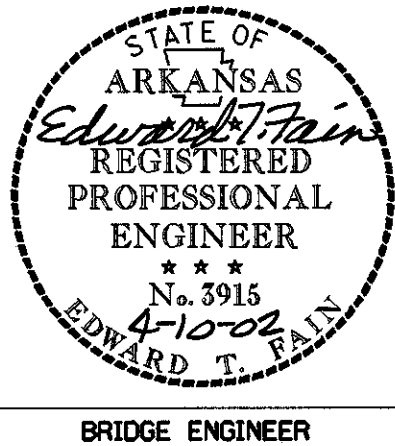
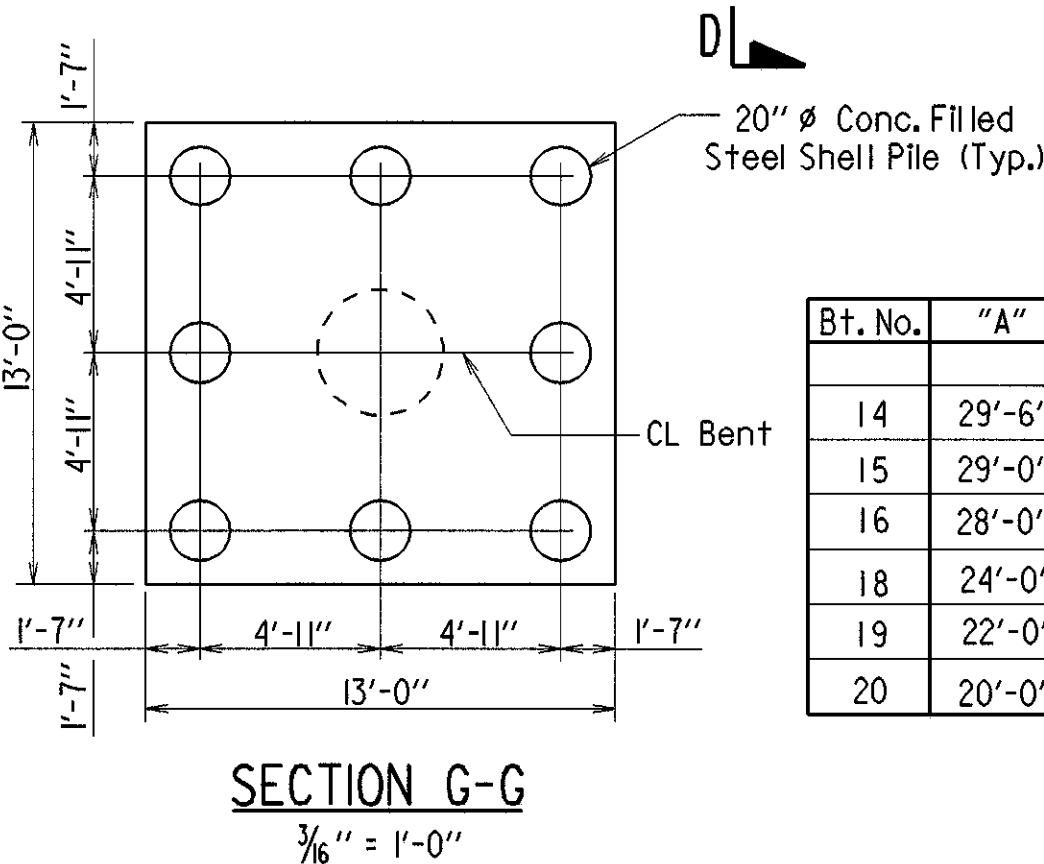
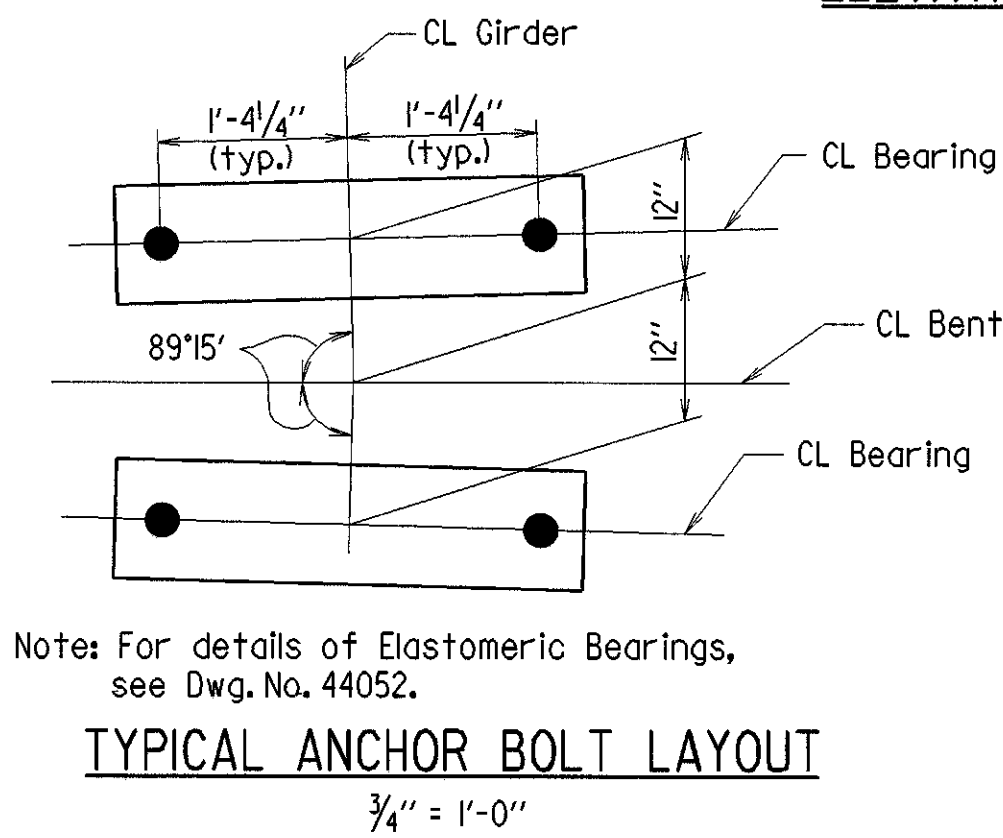
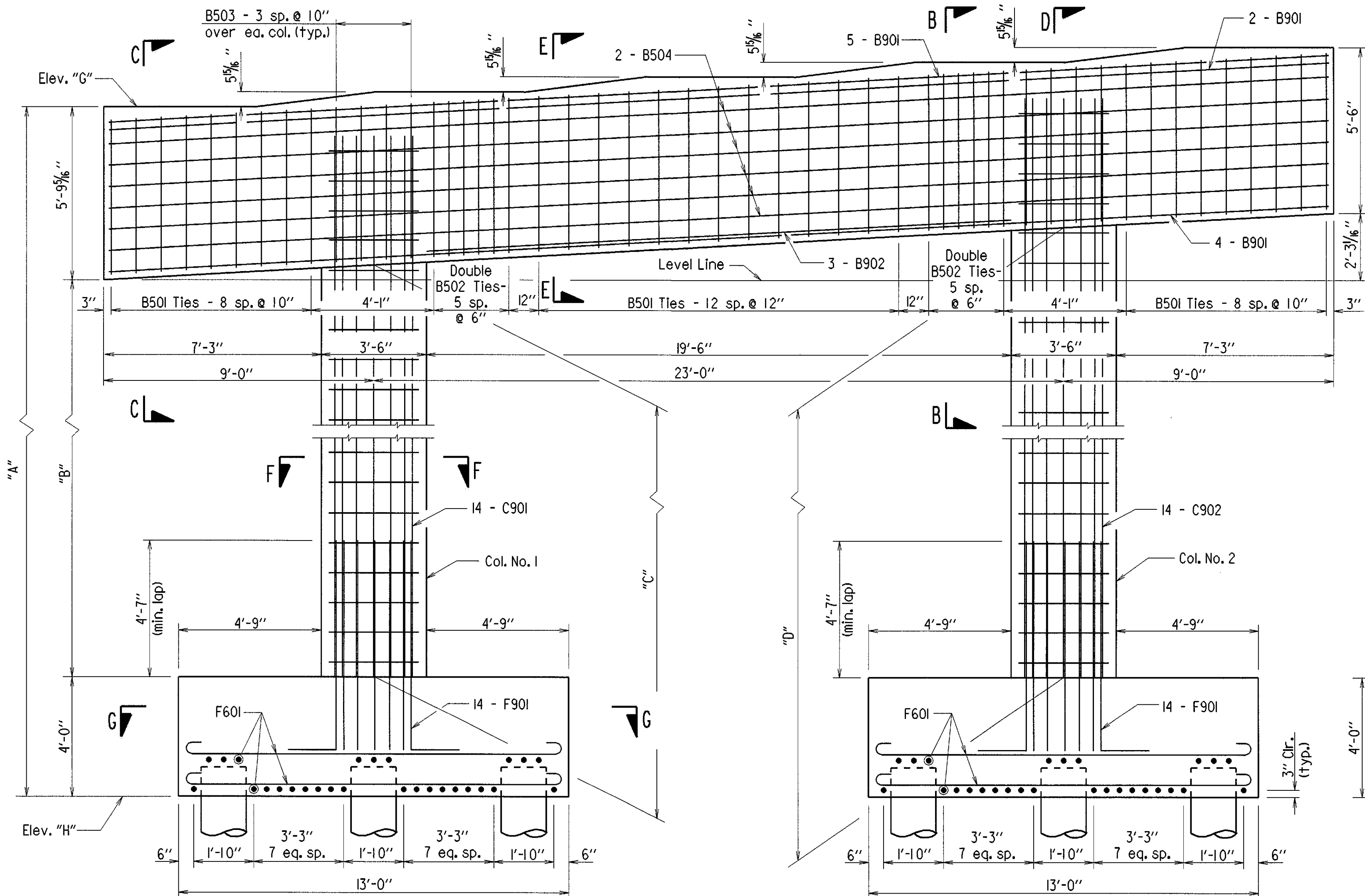
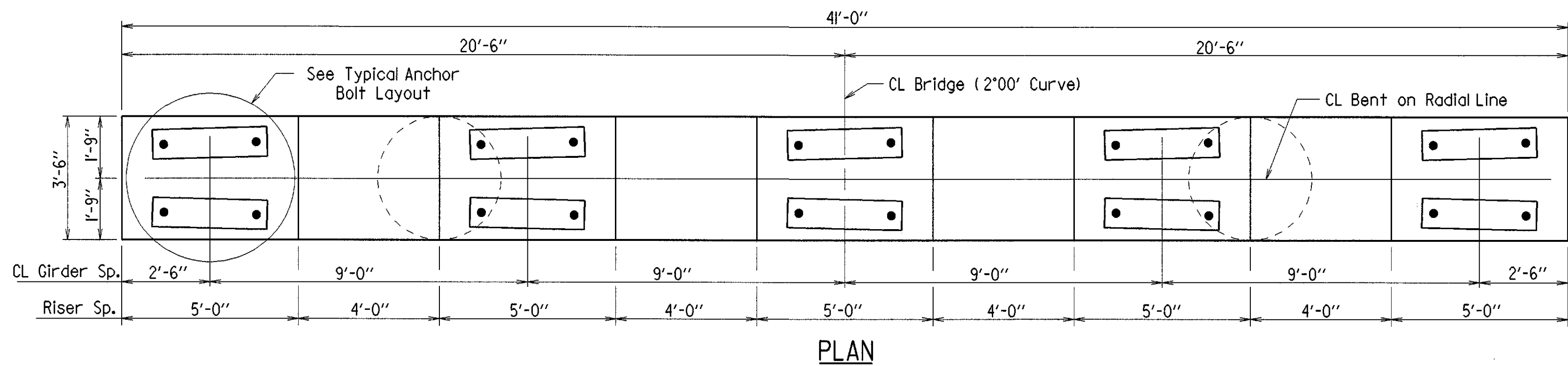


TABLE OF VARIABLES

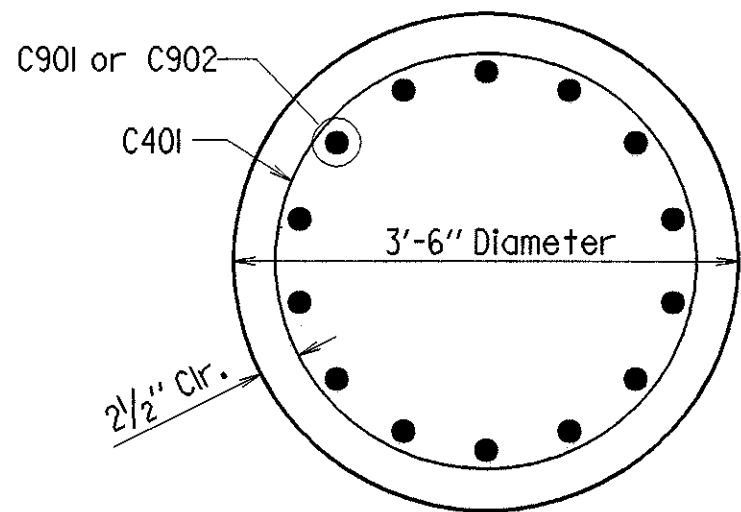
Bt. No.	"A"	"B"	"C"	"D"	"E"	"F"	Elev. "G"	Elev. "H"	"J"	"K"
14	29'-6"	19'-8 1/8"	20'-2 5/8"	21'-5 1/8"	18	19	352.69	323.19	24'-6"	25'-9"
15	29'-0"	19'-2 1/8"	19'-8 5/8"	20'-11 1/8"	17	19	351.40	322.40	24'-0"	25'-3"
16	28'-0"	18'-2 1/8"	18'-8 5/8"	19'-11 1/8"	16	18	349.83	321.83	23'-0"	24'-3"
18	24'-0"	14'-2 1/8"	14'-8 5/8"	15'-11 1/8"	12	14	345.85	321.85	19'-0"	20'-3"
19	22'-0"	12'-2 1/8"	12'-8 5/8"	13'-11 1/8"	10	12	343.60	321.60	17'-0"	18'-3"
20	20'-0"	10'-2 1/8"	10'-8 5/8"	11'-11 1/8"	8	10	341.35	321.35	15'-0"	16'-3"



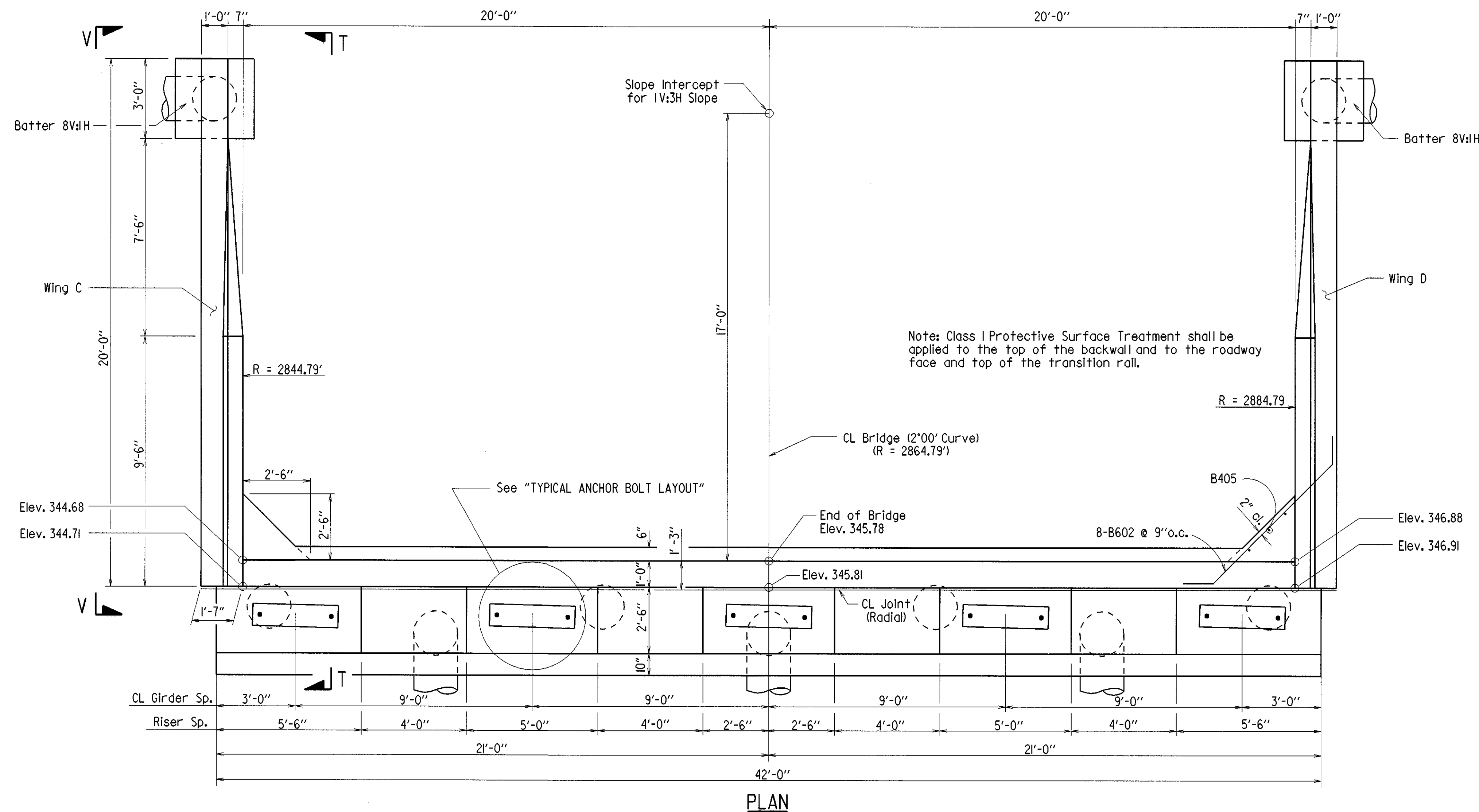
ELEVATION



SECTION F-F  
3/4" = 1'-0"



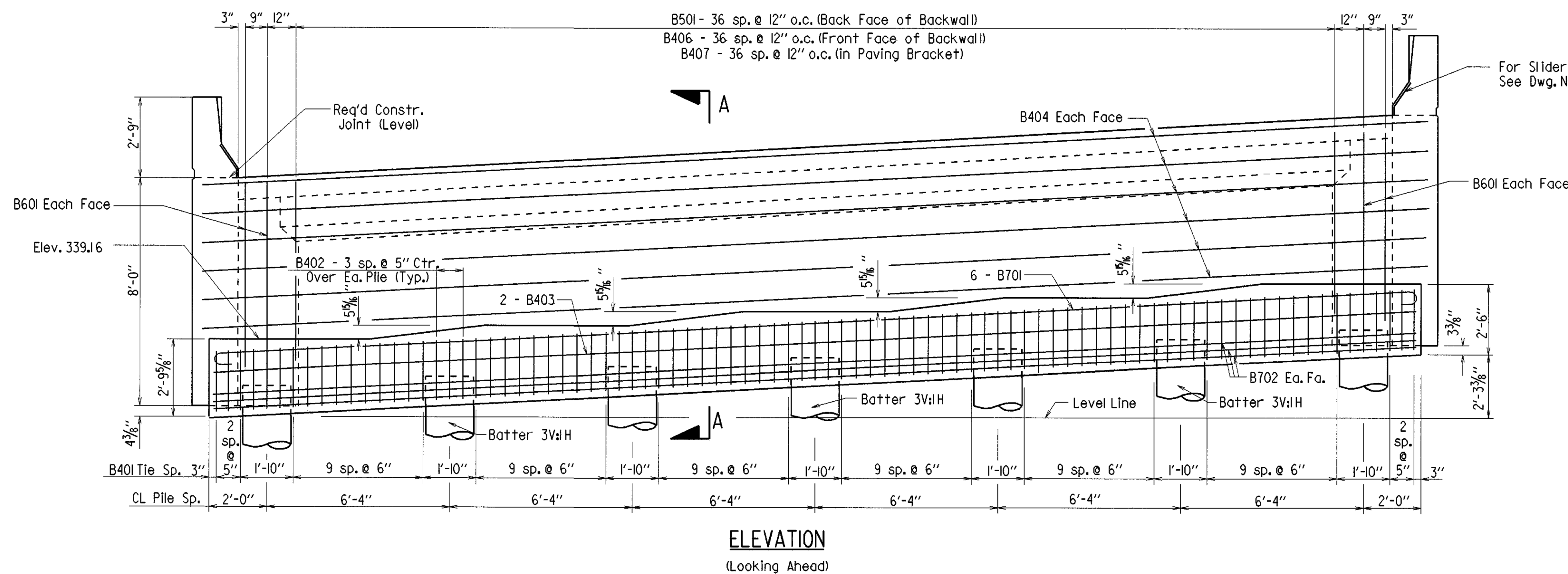
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	30	77
				06930	End Bent		44046	



# BAR LIST

MARK	NO.	REQ'D.	LENGTH	P. D.	BENDING DIAGRAMS
B401	66	11'-11"	2"		
B402	21	7'-6"	2"		
B403	2	4'-8"	Str.		
B404	12	42'-10"	Str.		
B405	6	6'-10"	Str.		
B406	37	7'-3"	Str.		
B407	37	3'-11"	2"		
B501	37	7'-3"	Str.		
B601	8	7'-3"	Str.		
B602	16	8'-4"	4 1/2"		
B701	6	43'-4"	5 1/4"		
B702	6	4'-8"	Str.		
R401	26	3'-11"	2"		
R402	8	4'-0"	2"		
R403	12	19'-8"	Str.		
R601	20	7'-4"	Str.		
R602	6	4'-8"	Str.		
W401	34	3'-10"	2"		
W402	34	5'-1"	Str.		
W403	68	7'-2"	Str.		
W404	6	9'-11"	2"		
W701	20	19'-8"	Str.		
W702	20	19'-8"	5 1/4"		
W703	4	16'-8"	Str.		
F601	20	5'-8"	4 1/2"		
F602	8	2'-8"	Str.		

Dimensions are out to out of bars



# GENERAL NOTES

All Concrete shall be Class "S" and shall be poured in the dry with a min. 28-day compression strength  $f'_c = 3500$  psi. All exposed corners to be chamfered  $\frac{3}{4}$ " unless otherwise noted.

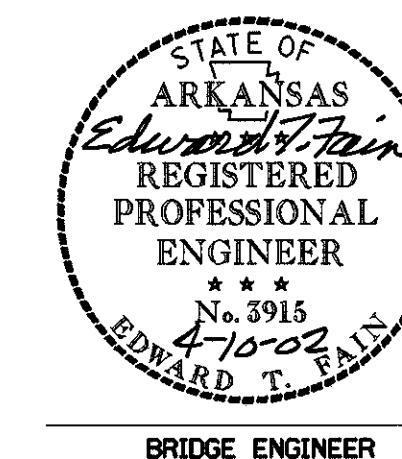
Reinforcing steel shall conform to AASHTO M 31 or M 53, Grade 60.

Structural Steel in End Bents shall be AASHTO M 270, Grade 50W and shall be paid for as "Structural Steel in Plate Girder Spans (AASHTO M 270, GR. 50W)".

Backwall shall not be poured before beams are in place and concrete deck pours have been made.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information, See Layout.



(SHEET 1 OF 2)  
DETAILS OF END BENT 21  
ASHDOWN BYPASS  
LITTLE RIVER COUNTY

ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: SAT DATE: 3-19-02 FILENAME: b030264X1b1  
CHECKED BY: ANS DATE: 3-27-02 SCALE:  $\frac{3}{8}$ " = 1'-0"  
DESIGNED BY: JAC DATE: 2-15-02  
BRIDGE NO. 06930 DRAWING NO. 44046





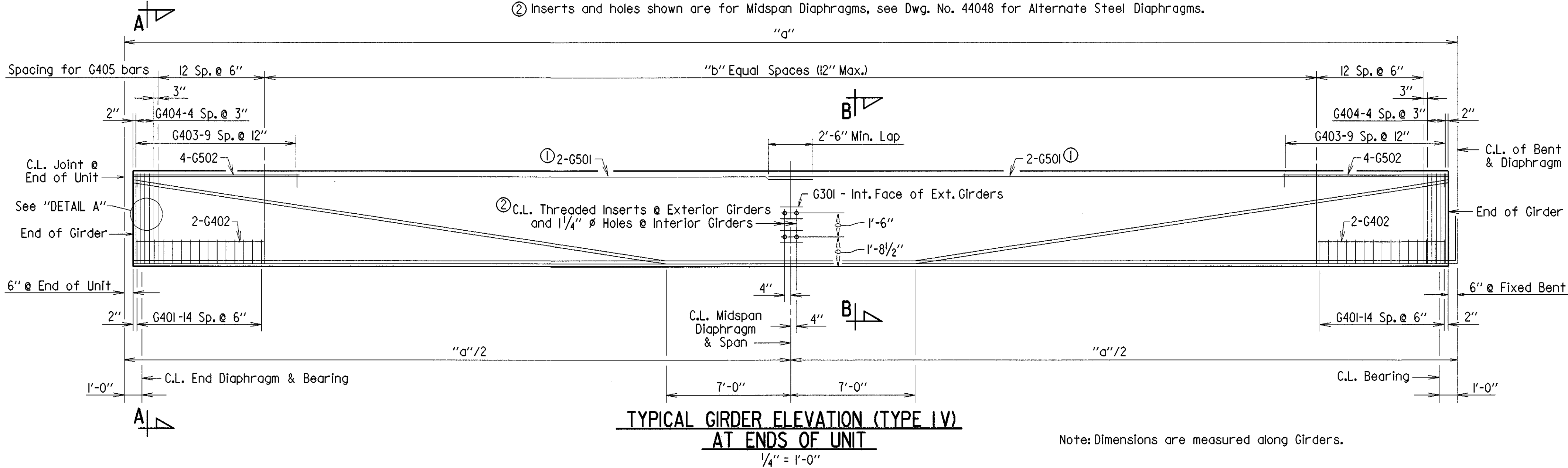






Notes: ① Contractor may substitute 2 Prestressed Strands at an initial Maximum Pull of 5,000 lbs. in lieu of G501 bars.  
② Inserts and holes shown are for Midspan Diaphragms, see Dwg. No. 44048 for Alternate Steel Diaphragms.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	34	77
				①	06930	SPAN DETAILS	44049	



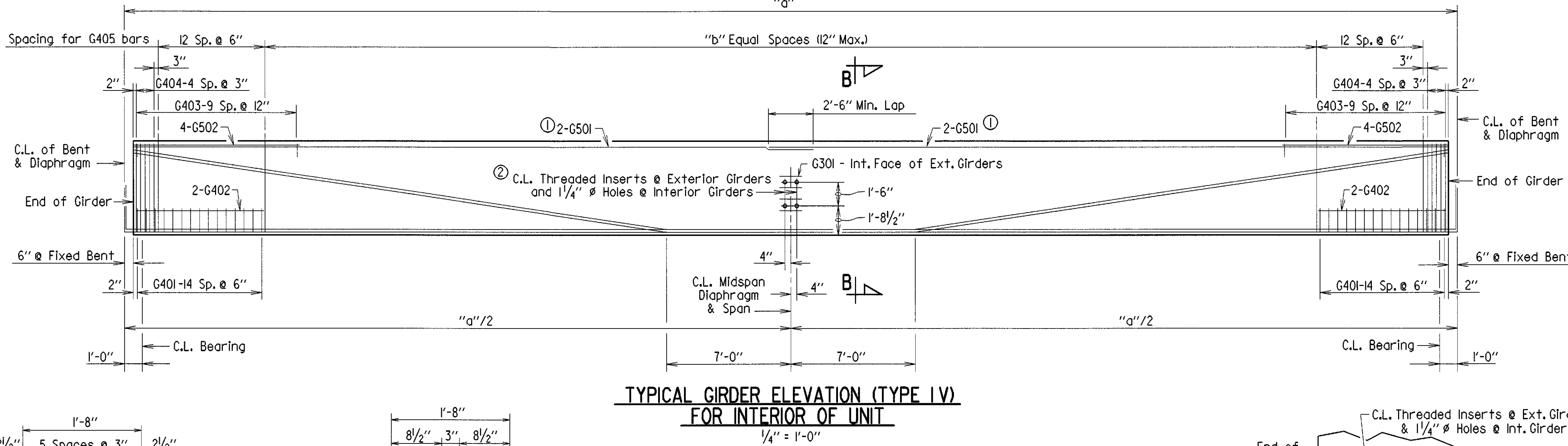
**BAR LIST PER GIRDER**

MARK	NO. REQ'D.	LENGTH	P. D.
③ G301	4	1'-3"	Str.
G401	30	5'-5"	2"
G402	4	7'-3"	Str.
G403	20	2'-6"	3"
G404	10	8'-10"	4"
G405	"b"+1	10'-8"	2"
G501	4	38'-5"	Str.
G502	8	9'-3"	Str.

**BENDING DIAGRAMS**

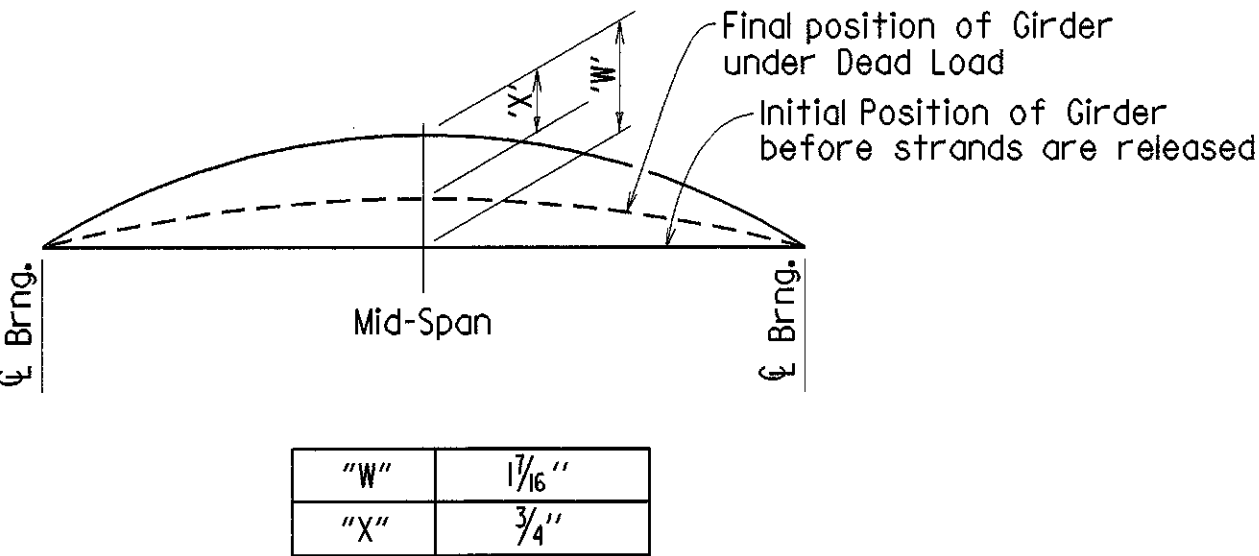
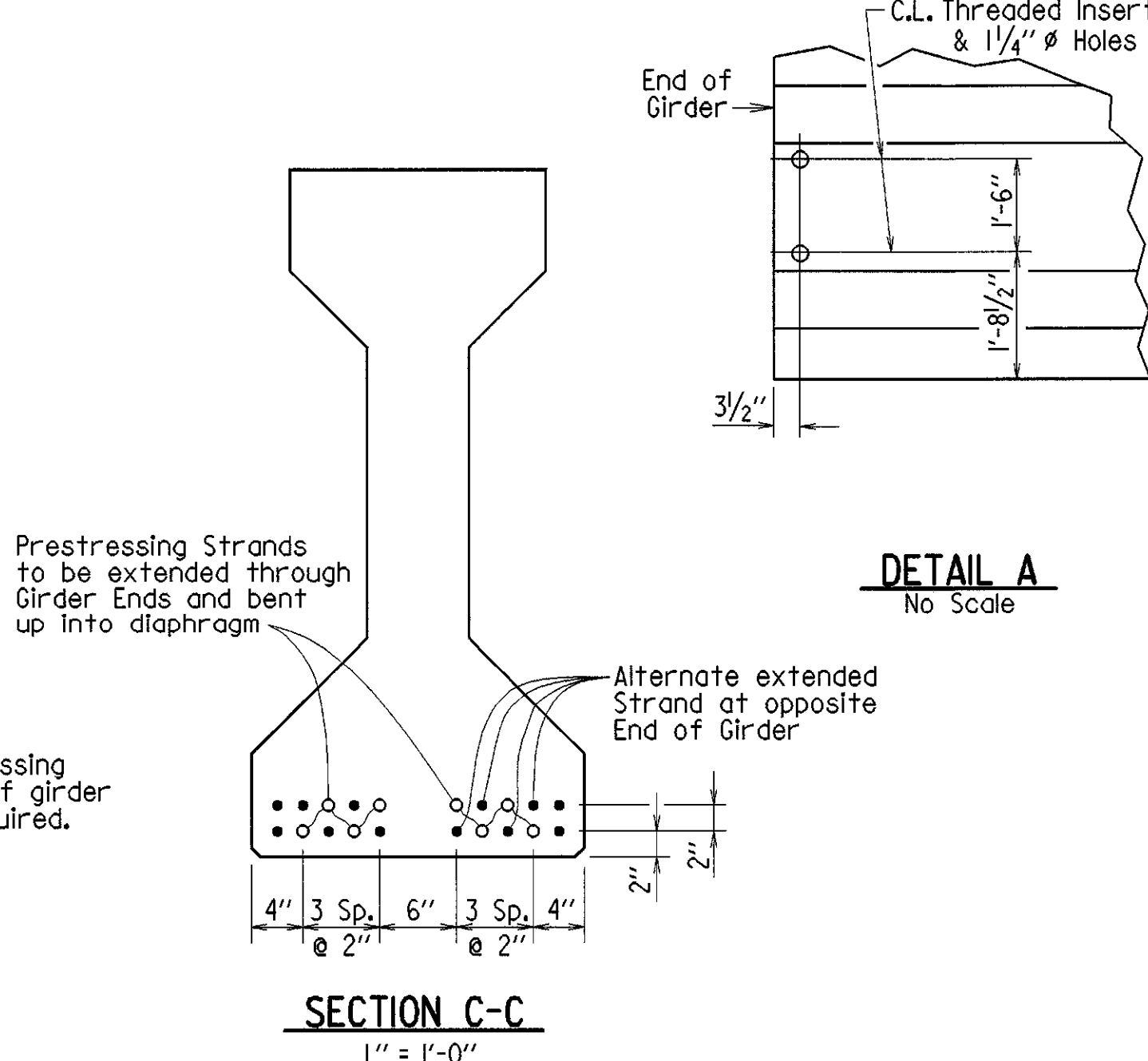
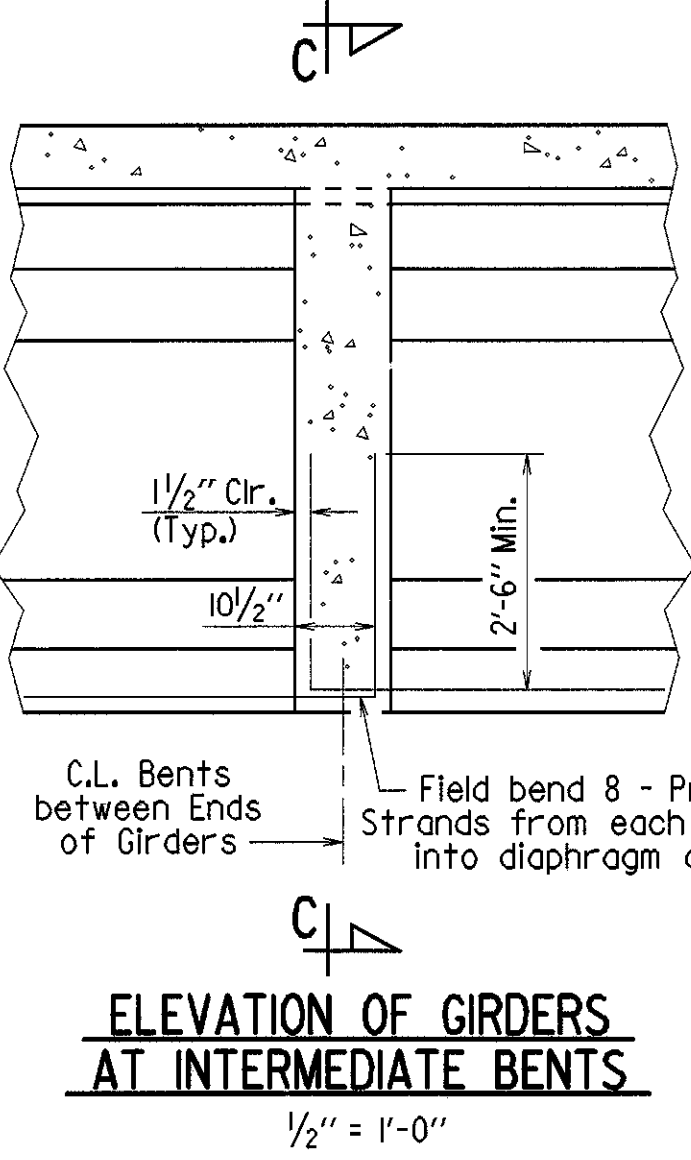
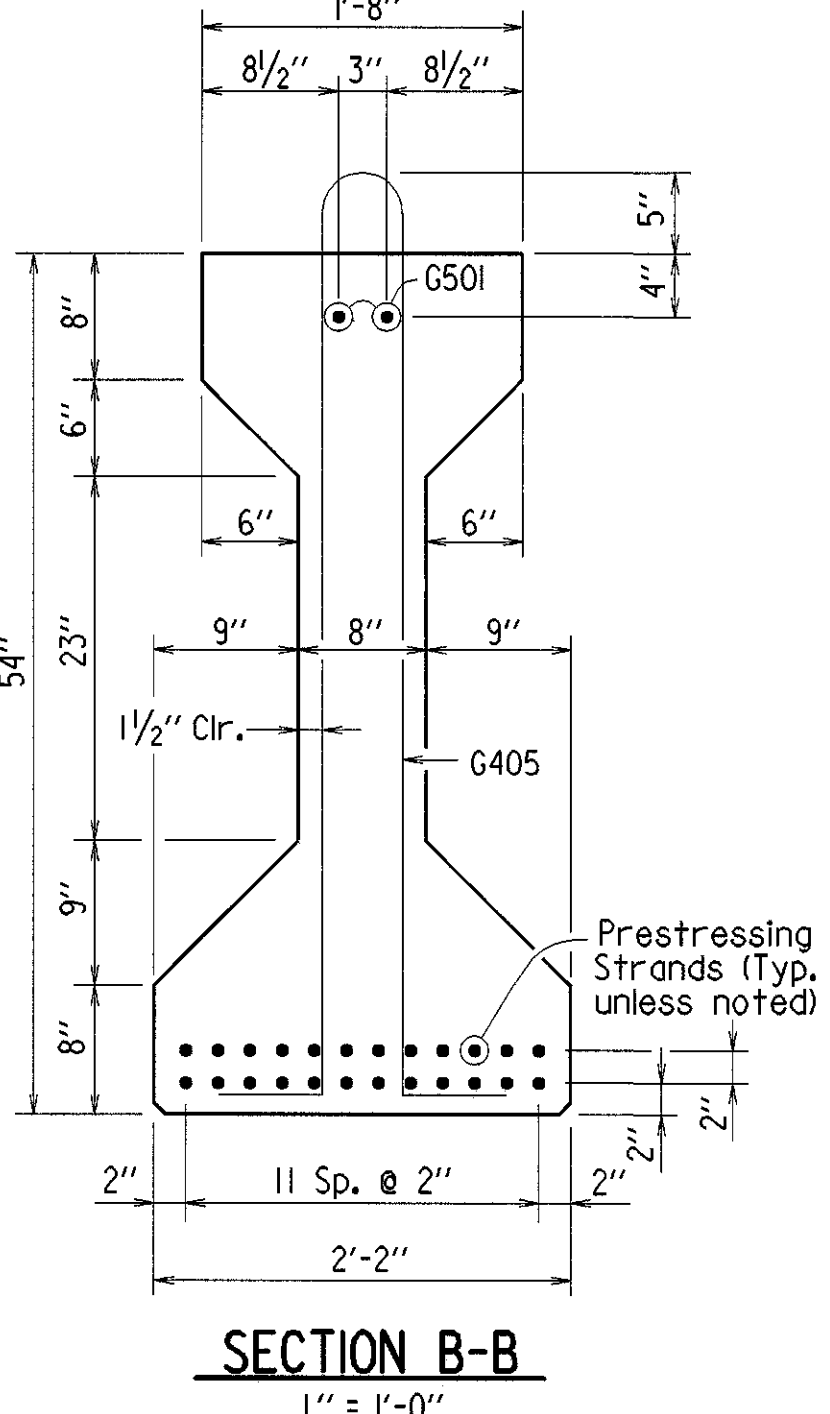
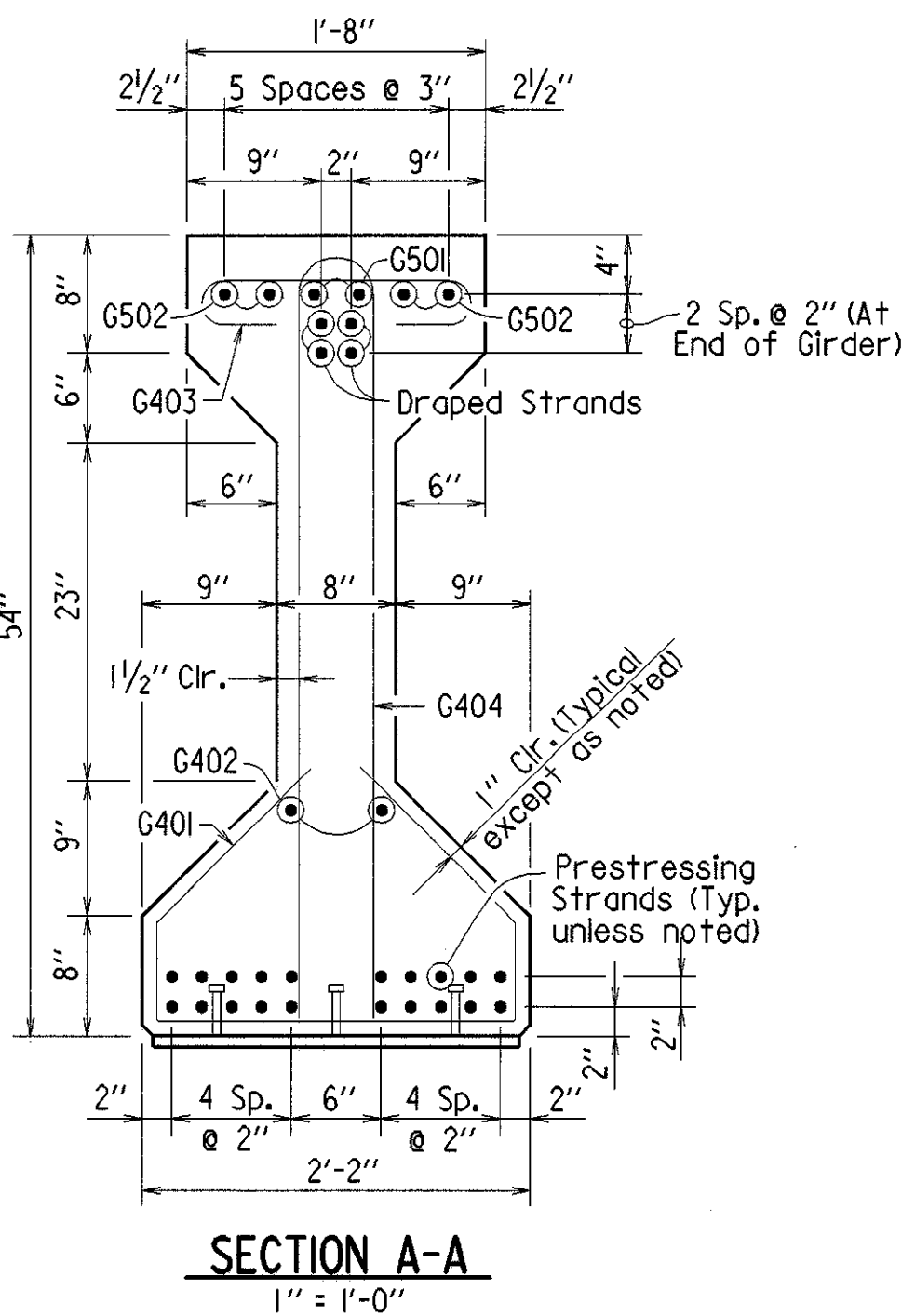
③ At Exterior Girders only.

All bars in this list shall be subsidiary to the Item "Prestressed Concrete Girders".  
For Bar List of Span Reinforcing, See Dwg. No. 44050.



**TABLE OF VARIABLES**

Girder No.	"a"	"b"
1	74'-6 5/8"	59
2	74'-9 5/8"	59
3	75'-0"	60
4	75'-2 1/8"	60
5	75'-5 5/8"	60

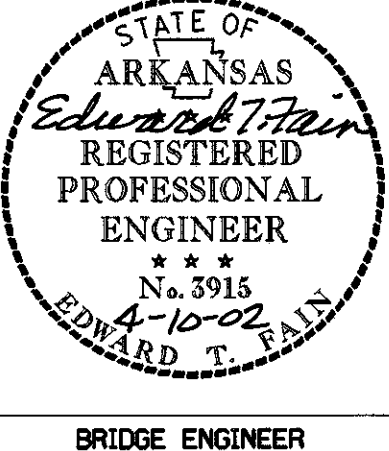


"W" is camber of Girder (Prestress + Dead Load of Girder @ 60 days)  
"X" is Dead Load Deflection of Slab + Diaphragms + Composite Dead Load

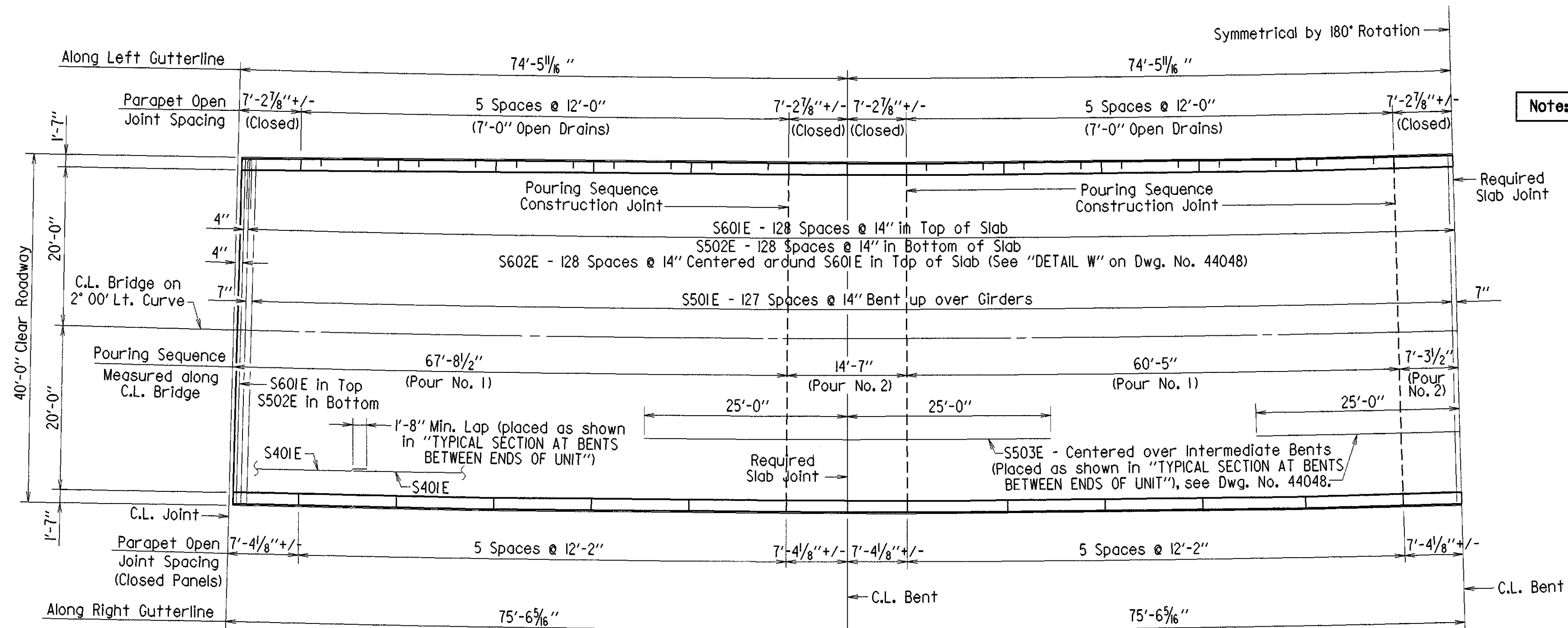
**CAMBER & DEFLECTIONS (INCHES)**  
N.T.S.

(SHEET 2 OF 4)  
DETAILS OF 300'-0"  
CONTINUOUS PRESTRESSED  
CONCRETE GIRDER UNIT  
ASHDOWN BYPASS  
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 03-18-02 FILENAME: B030264XLSI  
CHECKED BY: AHS DATE: 3-25-02 SCALE: AS NOTED  
DESIGNED BY: JAC DATE: 2-7-02  
BRIDGE NO. 06930 DRAWING NO. 44049



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	030264	35	77	
				06930	SPAN DETAILS	44050		



### HALF-REINFORCING PLAN & POURING SEQUENCE

1/2" X 1" Type 6 Joint Sealer. See subsections 50L02 (h) and 50L05 (j). Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed before any vehicular traffic is allowed on the unit. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations.

1/2" = 1'-0" Note: Transverse Reinforcing Steel to be placed on Radial Lines measured along C.L. Bridge. Longitudinal slab reinforcing is concentric to 2' 00" Curve along C.L. Bridge. Parapet joint spacing is measured along gutterlines.

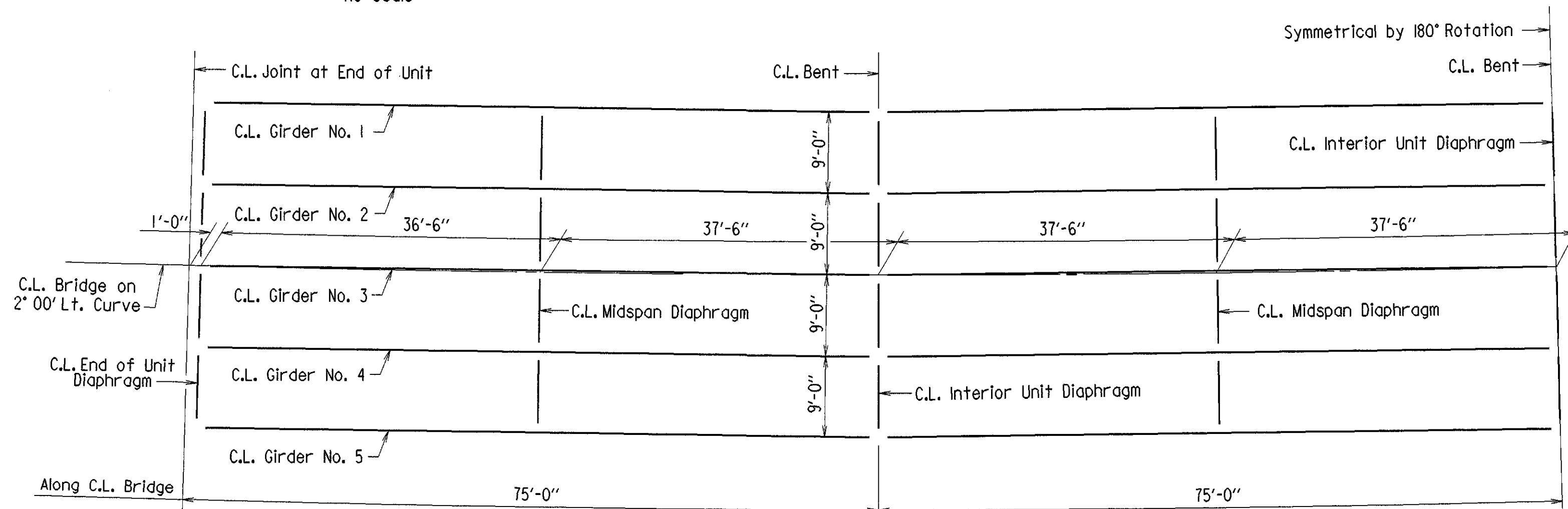
NOTES: Pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. Concrete in diaphragms between girders over fixed bents shall be cast monolithically with the slab. Concrete in bridge superstructure shall be consolidated for the entire pour before concrete has taken its initial set. This may require the use of a retarding agent.

The Contractor must obtain approval from the Bridge Engineer for any deviations from the pouring sequence shown.

Required slab joints and pouring sequence joints shall align with the parapet open joints at the gutterline.

### SLAB JOINT DETAIL

No Scale



Note: Girders are placed on Chords from C.L. Bent or Joint to C.L. Bent or Joint.

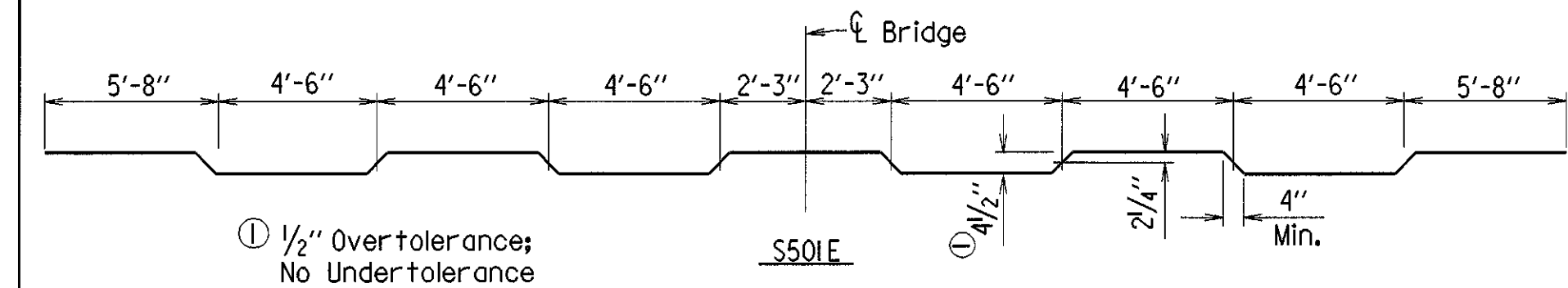
### HALF-FRAMING PLAN

1/2" = 1'-0"

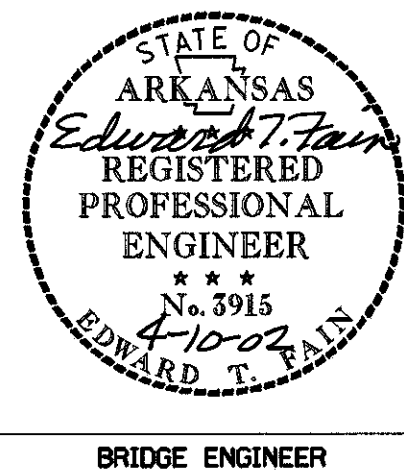
Note: Longitudinal Strike-offs shall not be used on curved units.

### BAR LIST-PER UNIT

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
S401E	768	39'-0"	Str.	
S501E	256	43'-8"	3"	
S502E	259	42'-10"	Str.	
S503E	198	50'-0"	Str.	
S601E	259	42'-8"	Str.	
S602E	257	12'-3"	6"	
P401E	588	6'-4"	2"	
P402E	588	5'-6"	2"	
P403E	96	6'-11"	Str.	
P404E	140	5'-10"	2"	
P405E	140	3'-2"	2"	
P406E	200	11'-8"	Str.	
P601E	100	11'-8"	Str.	
D401E	84	10'-10"	2"	
D402E	56	10'-2"	2"	
D403E	112	9'-8"	2"	
D601	120	36'-4"	Str.	
D602	240	7'-0"	Str.	
D603	48	7'-4"	Str.	



Note: Bar designations ending with "E" indicates Epoxy Coated bars.



(SHEET 3 OF 4)  
DETAILS OF 300'-0"  
CONTINUOUS PRESTRESSED  
CONCRETE GIRDER UNIT  
ASHDOWN BYPASS

ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 03-19-02 FILENAME: B030264X1.SI  
CHECKED BY: AMS DATE: 3-25-02 SCALE: AS NOTED  
DESIGNED BY: JAC DATE: 2-7-02  
BRIDGE NO. 06930 DRAWING NO. 44050

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	36	77
				06930		SPAN DETAILS	44051	

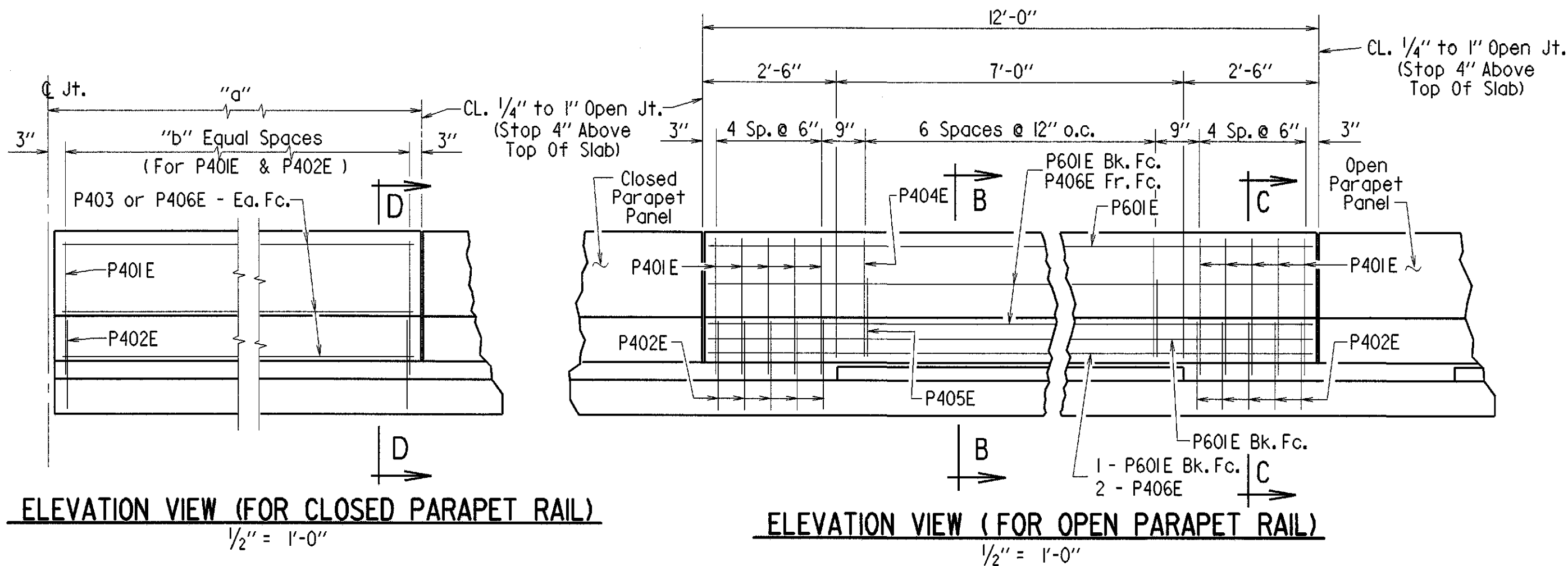
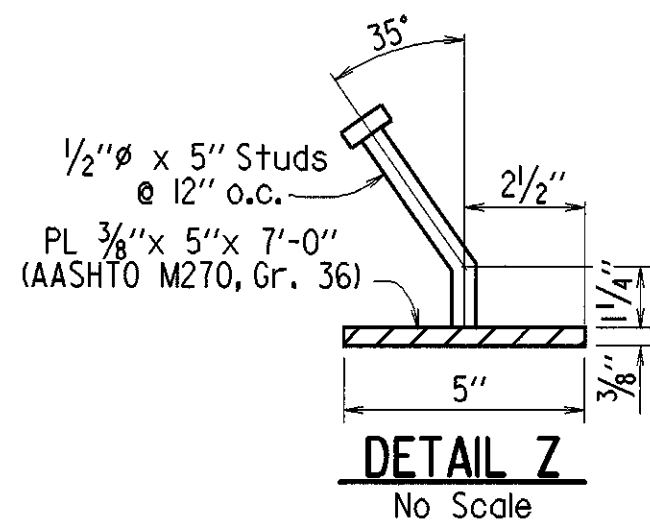
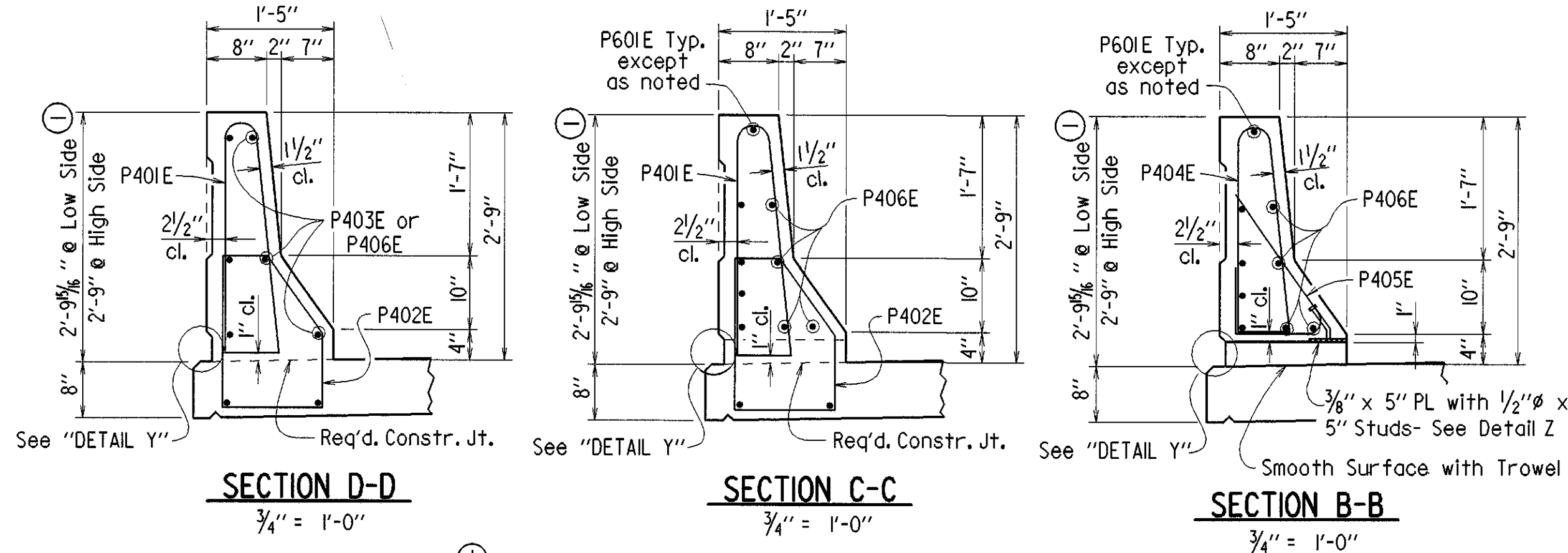


TABLE OF VARIABLES  
FOR CLOSED PARAPET RAILS

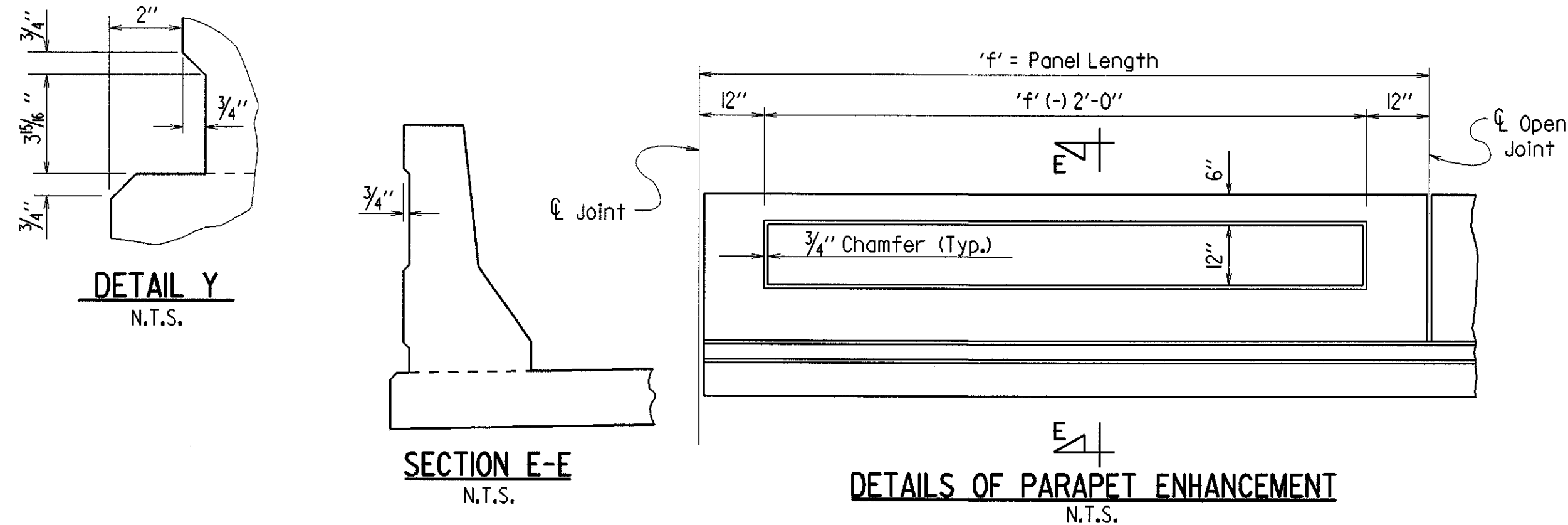
"a"	"b"	Longitudinal Steel
7'-2 7/8"	7	P403E
7'-4 1/8"	7	P403E
12'-2"	12	P406E



Note:  
The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to Class S(AE) Concrete-Bridge.

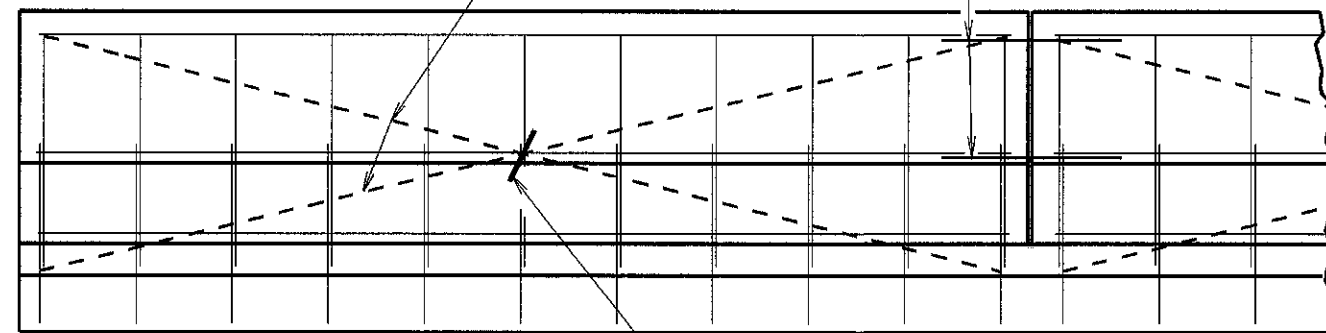


① Varies from 2'-9 1/8" @ Sta. 268+70.00 to 2'-9 5/8" @ Sta. 269+23.30



Wire shall be smooth 9 gage, and conform to AASHTO M279, Class 3 galvanization and dimensions.

Four #4 fiberglass reinforcing bars shall be installed as shown across all open joints with a 20" lap on each steel bar.



Bar to tighten smooth wire shall be fiberglass or epoxy-coated

All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish, in place of Class 2, Rubbed Finish.

#### DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL (OPEN OR CLOSED)

N.T.S.

#### PRESTRESSED GIRDERS GENERAL NOTES

Pretensioning steel shall be 1/2" dia. Low Relaxation strands with a minimum ultimate strength of 270 ksi, and shall conform to AASHTO M 203.

Distances from the forms and spacing of the Prestressing Steel shall be maintained by stays, ties, hangers, spacers, or other approved supports which shall be shown on the Shop Drawings.

All girders shall be Type IV as noted on the details and shall be the standard prestressed sections adopted by the Joint Committee of AASHTO and the Prestressed Concrete Institute. All girders shall be cast in concrete floored pallets and in metal forms. All work and materials shall be as specified in subsection 802.22.

Concrete shall be Class S and shall have a minimum 28 day compressive strength, f'c = 5,000 psi

The initial tensile force applied to each 1/2" dia. strand shall be 31,000 lbs. Transfer of this tensioning load to the girder shall not be done until the compressive strength of the concrete is 4,000 psi.

Dimensions shown are to the center of the strands.

The Contractor shall submit the method and sequence for release of strands to the Bridge Engineer for approval prior to casting of the girders.

The first 16" along the tops of the Girders at beginning and end of units shall have a smooth surface, the rest of the tops of the girders shall be rough floated at approximately the time of set. This portion of the tops of girders shall be scrubbed transversely with a coarse wire brush to remove all laitance and to produce a roughened surface for bonding slabs.

All exposed steel at end of unit girders shall be protected against corrosion with a coating of tar or other waterproofing material.

Extreme care shall be exercised in handling and moving precast prestressed concrete girders. Girders must be maintained in an upright position at all times and must be picked up from points near the girder ends. Disregard of this requirement may lead to collapse of the girder. The Contractor's proposed lifting details shall be submitted on shop drawings to the Bridge Engineer for approval. The use of holes for lifting purposes will not be permitted.

The points of support and directions of the reactions with respect to the member shall be approximately the same during transportation and storage as when the member is in its final position.

Reinforcing steel shall be AASHTO M31 or M53, Gr. 60 (fy = 60,000 psi).

The Contractor may submit alternate strand patterns with design calculations for review and approval.

Load Distribution to Girders:

Dead Load (a) To girder only	To Interior Girder 931 plf + Girder + Diaph.	To Exterior Girder 840 plf + Girder + Diaph.
(b) To composite girder	* 348 plf	* 348 plf
Live Load to Comp. Girder	1,636 Wheels+Impact	1,440 Wheels+Impact

\* Includes 192 plf for future wearing surface

Recesses shall be continuous

For actual placement of reinforcing steel, see parapet details.

Vertical reinforcing shall be closed loop on top

All smooth wire bracing shall be placed on the inside faces of the reinforcing

#### SUPERSTRUCTURE GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Dept. Standard Specifications for Highway Construction (1996 edition) with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (1996 edition) with current Interim specifications.

LIVE LOADING: HS20

METHOD OF DESIGN: Load Factor

REINFORCING STEEL: Reinforcing Steel shall conform to AASHTO M31 or M53, Grade 60 (Fy = 60,000 psi).

Reinforcing steel shall be accurately located in the forms and firmly held in place by steel wire supports sufficient in size and number to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item of "Reinforcing Steel - Bridge".

CONCRETE: Concrete in Slab, Parapet, and Diaphragms shall be Class S (AE) with a minimum 28 day compressive strength f'c = 4,000 psi and shall be poured in the dry. All end of unit and midspan diaphragms shall be cast in place and poured a minimum of 48 hours before the slab is poured. Interior bent diaphragms shall be cast monolithically with the slab.

All exposed corners to be chamfered 3/4" unless otherwise noted.

The superstructure details shown are for when removable deck forming is used and are the basis for measurement of Class S (AE) Concrete. See Standard Drawing No. 14991 for allowable modifications and for tolerances when permanent steel bridge deck forms are used.

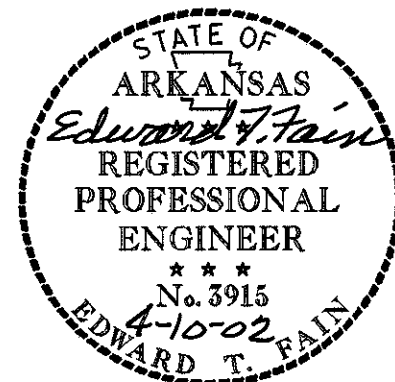
Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The concrete bridge deck shall be given a fine finish as specified for final finishing in subsection 802.19 for a Class 5 tined bridge roadway surface finish. Movement of the finishing machine across the new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder.

STRUCTURAL STEEL: All Structural Steel shall be AASHTO M270, Gr. 50W unless otherwise noted and shall be paid for at the unit price bid for "Structural Steel in Plate Girder Spans (M270, Gr. 50W). AASHTO M270, Gr. 50W Steel shall not be painted. All exposed surfaces to be cleaned in accordance with Subsection 807.84(e) of the Standard Specifications. Structural Steel completely embedded in concrete may be AASHTO M270, Gr. 36 unless otherwise noted.

Structural shapes of equal or greater strength may be substituted for shapes shown if approval is obtained from the Bridge Engineer. Payment will be made on the basis of shapes shown.

All welding that is to be done during fabrication of structural steel, including temporary welds shall be detailed on the shop drawings and submitted for approval. If the Contractor or Erector should want to make additional welds, whether temporary or permanent, he shall submit detailed drawings with a formal request to the Bridge Engineer for approval. All welding shall conform to subsection 807.26.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted, and approval secured before fabrication is begun.



BRIDGE ENGINEER

#### (SHEET 4 OF 4) DETAILS OF 300'-0" CONTINUOUS PRESTRESSED CONCRETE GIRDER UNIT ASHDOWN BYPASS

ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 03-20-02 FILENAME: B030264XLSI  
CHECKED BY: JAC DATE: 2-25-02 SCALE: AS NOTED  
DESIGNED BY: JAC DATE: 2-7-02

BRIDGE NO. 06930

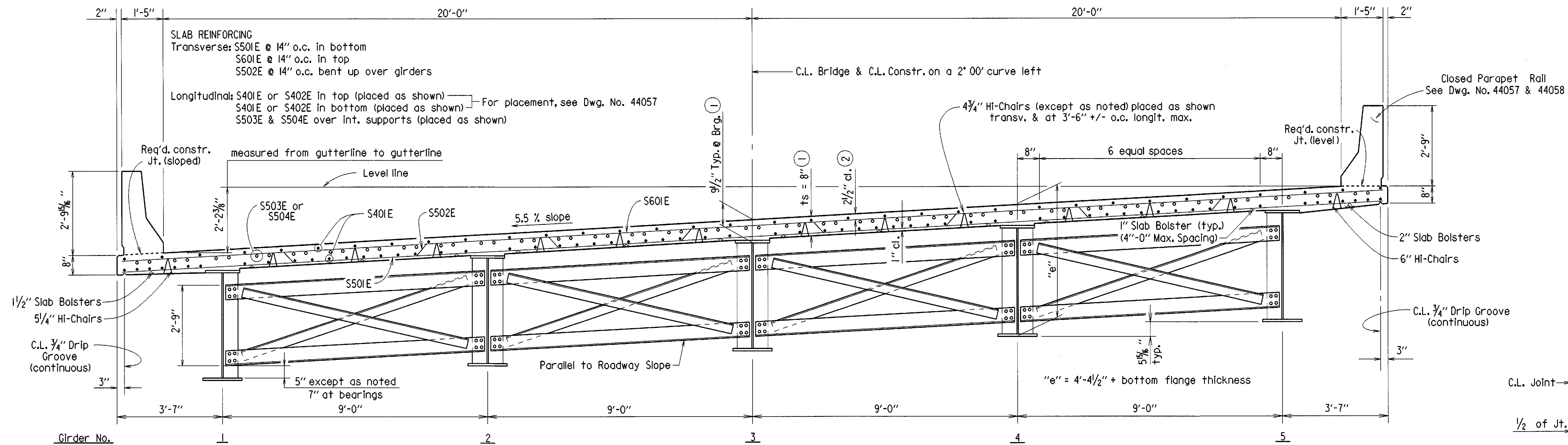
DRAWING NO. 44051



Note: Class I Protective Surface Treatment shall be applied to the Roadway Surface and the Face and Top of Concrete Parapet Rail  
Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job 030264 "Textured Coating Finish".

Note: One epoxy coated #5 bar in the top and one epoxy coated #5 bar in the bottom may be substituted for each S501E bar. Payment will be based on the weight of the S501E bar.  
Note: Hi-Chair and Slab Bolster heights shown are based on Removable Deck Forming. Permanent Deck Forming must be used between Girders.

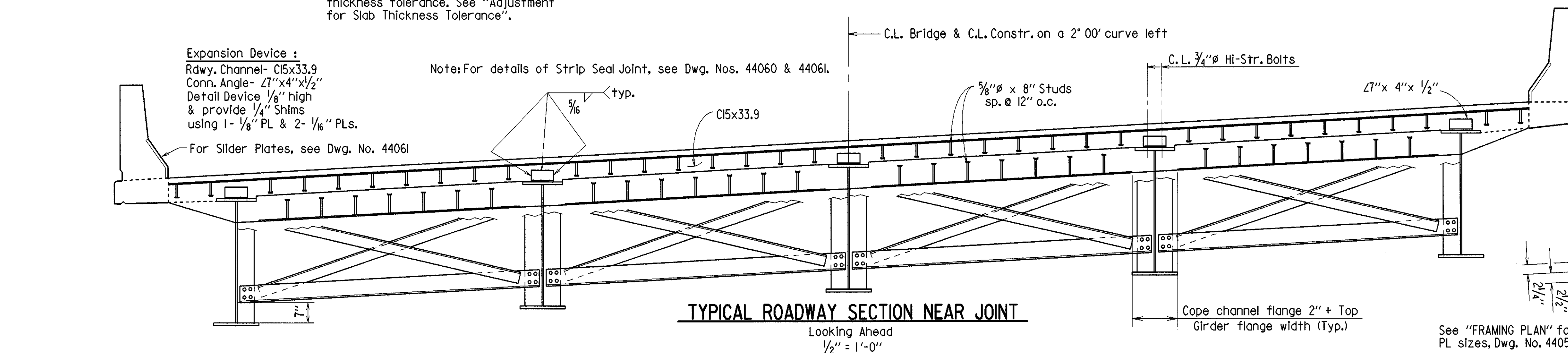
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	38	77
				06930		SPAN DETAILS	44053	



- ① See "Adjustment for Slab Thickness Tolerance"
- ② Tolerance: Minus = 1/4"; Plus equal to the amount of slab thickening used to meet slab thickness tolerance. See "Adjustment for Slab Thickness Tolerance".

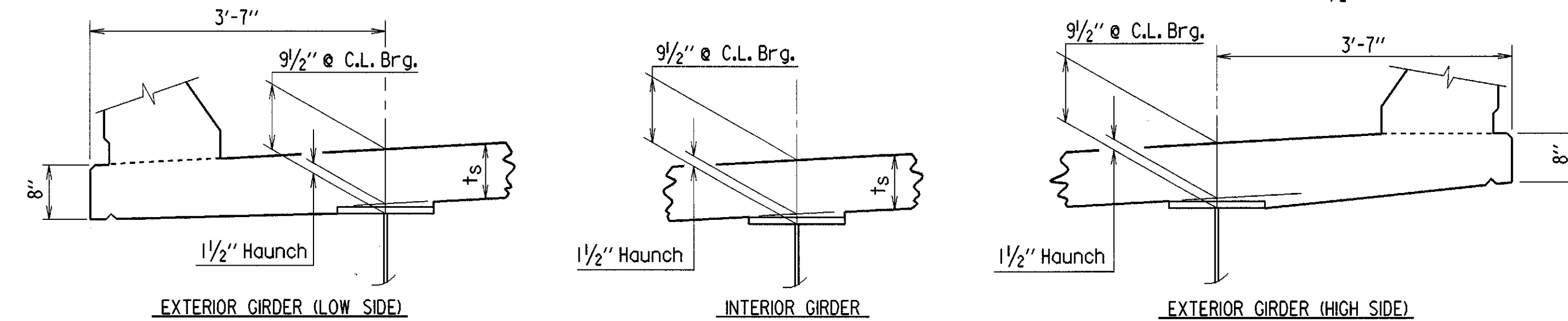
### TYPICAL ROADWAY SECTION

Looking Ahead  
1/2" = 1'-0"



### TYPICAL ROADWAY SECTION NEAR JOINT

Looking Ahead  
1/2" = 1'-0"

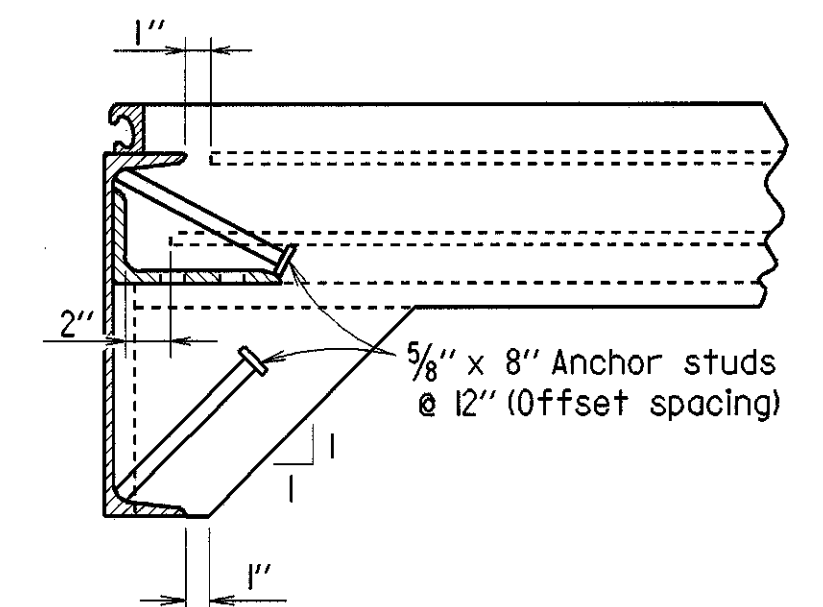


Note:  $t_s$  = slab thickness as shown on "ROADWAY SECTION".

### ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

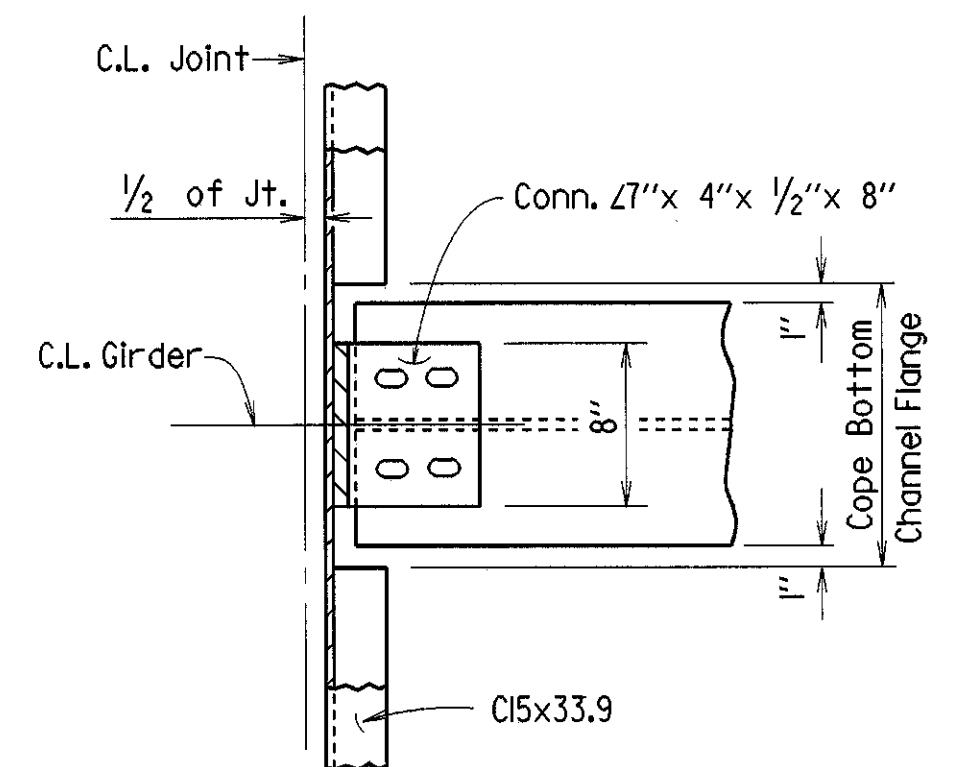
N.T.S.

See Std. Dwg. No. 14991 for tolerances for permanent steel deck forms.  
Payment for concrete shall be based on removable deck forming.



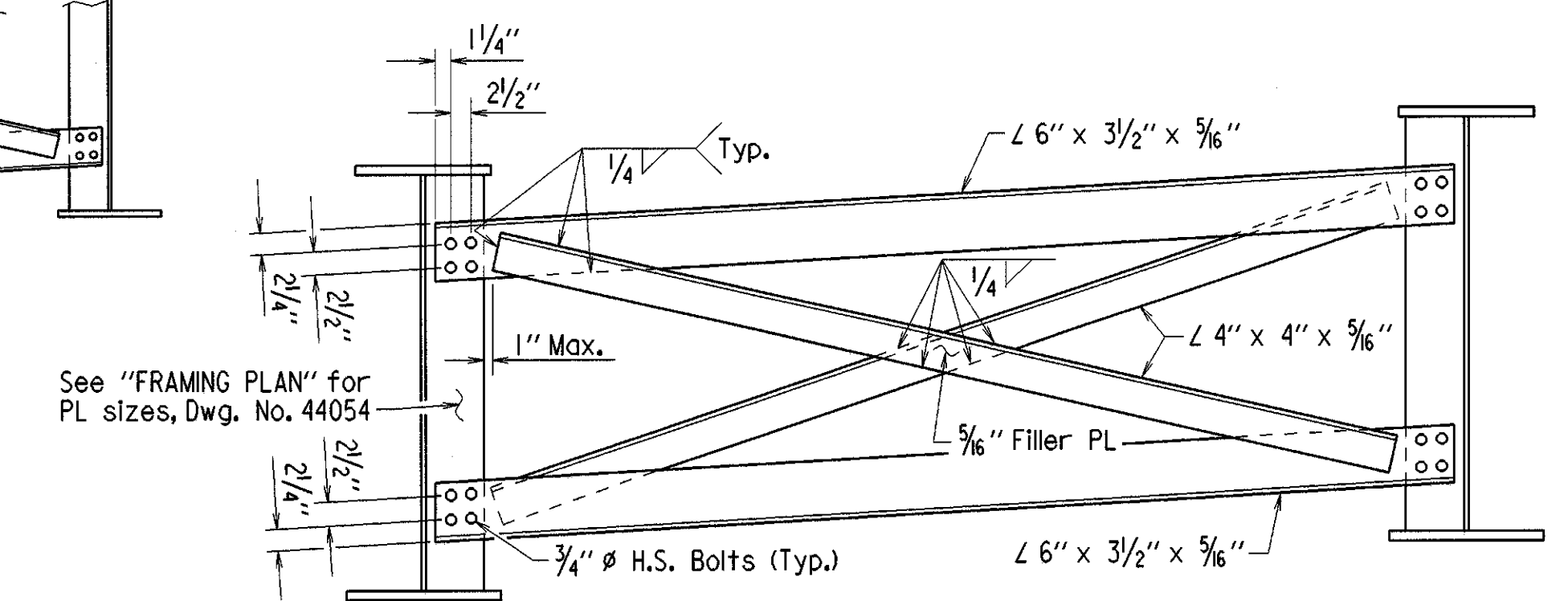
### ANCHOR DETAILS

N.T.S.



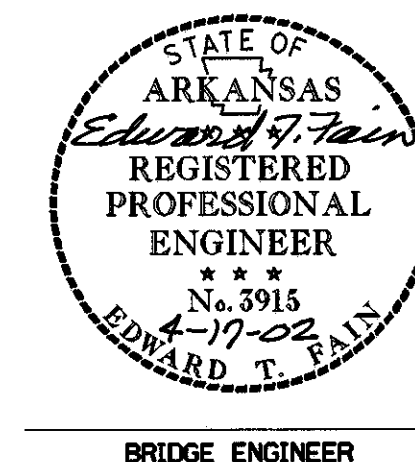
### CHANNEL CONNECTION DETAIL

N.T.S.



### TYPICAL CROSS-FRAME CONNECTION DETAIL

3/4" = 1'-0"

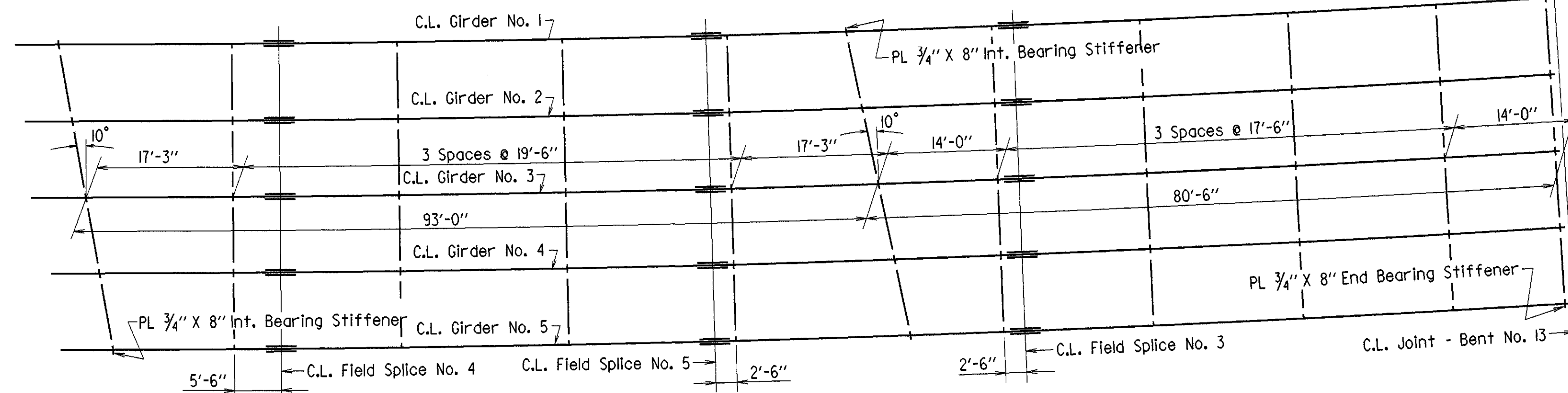
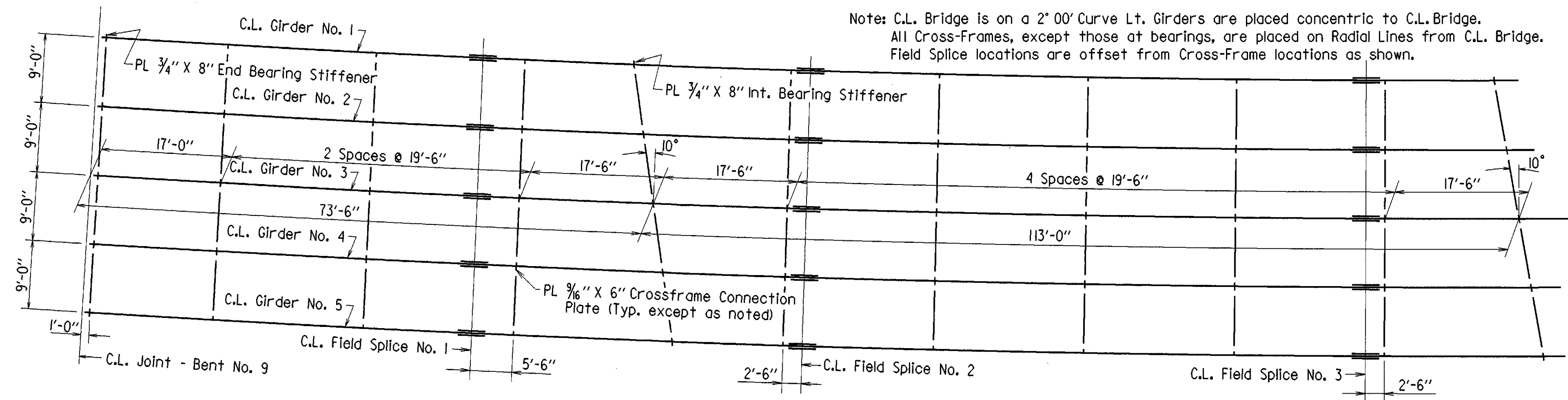


BRIDGE ENGINEER

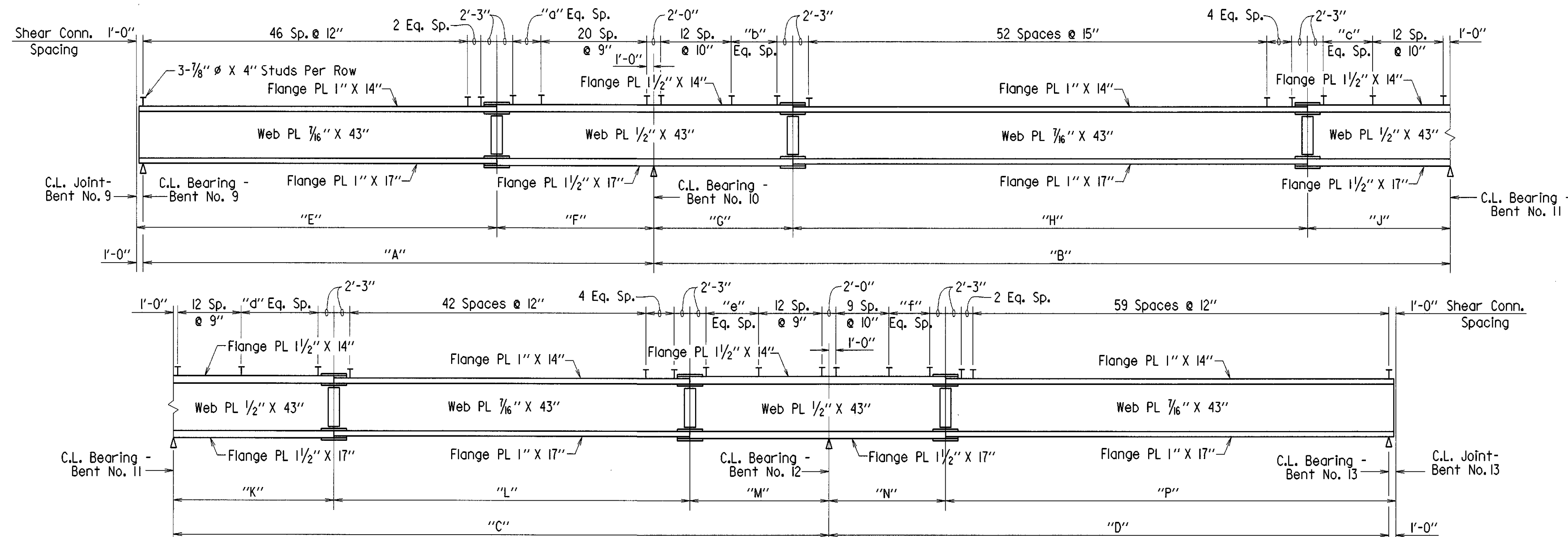
(SHEET 1 OF 6)  
DETAILS OF 360'-0"  
CONTINUOUS PLATE GIRDER UNIT  
ASHDOWN BYPASS  
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: LM/MJT DATE: 03-22-02 FILENAME: B030264X2.SI  
CHECKED BY: CES DATE: 4-16-02 SCALE: AS NOTED  
DESIGNED BY: CES DATE: 11-02  
BRIDGE NO. 06930 DRAWING NO. 44053

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030264	39	77
				06930		SPAN DETAILS		44054



**FRAMING PLAN**

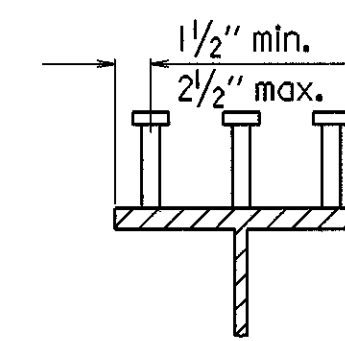


**PLATE GIRDER ELEVATION**

Note: All Structural Steel to be AASHTO M270, Grade 50W.

**TABLE OF VARIABLES**

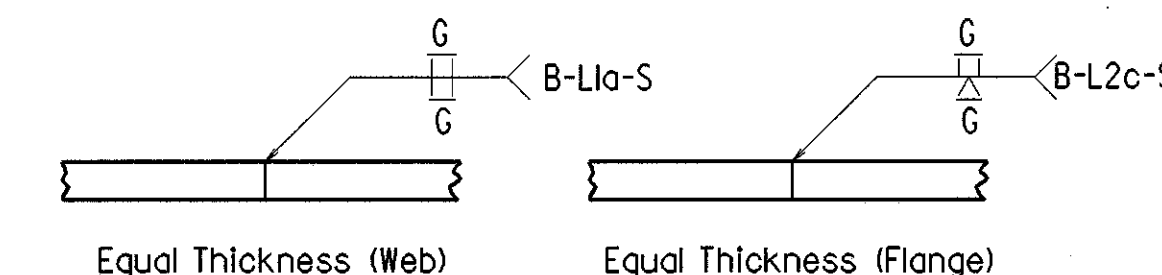
Girder No.	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"	"L"	"M"	"N"	"P"	"a"	"b"	"c"	"d"	"e"	"f"	Studs
1	69'-10 3/8"	112'-3 1/2"	92'-5"	83'-2"	50'-1 1/8"	19'-8 9/16"	23'-0 3/4"	72'-6 3/8"	16'-8 9/16"	25'-9 9/16"	50'-1 9/16"	16'-5 5/8"	19'-7"	63'-7"	2	8	3	14	5	9	1017
2	71'-8 3/16"	112'-7 3/4"	92'-8 1/2"	81'-10"	50'-3 3/8"	21'-6 3/16"	21'-4 3/16"	72'-9 1/16"	18'-4 3/16"	24'-3 3/8"	50'-3 3/16"	18'-1 5/16"	18'-0 1/2"	63'-9 1/2"	4	7	5	12	6	8	1020
3	73'-6"	113'-0"	93'-0"	80'-6"	50'-6"	23'-0"	20'-0"	73'-0"	20'-0"	22'-9"	50'-6"	19'-9"	16'-6"	64'-0"	5	6	6	11	8	6	1020
4	75'-3 3/16"	113'-4 1/4"	93'-3 1/2"	79'-2"	50'-8 1/8"	24'-7 1/16"	18'-5 5/8"	73'-2 5/16"	21'-7 1/16"	21'-2 5/8"	50'-8 3/16"	21'-4 1/16"	14'-11 1/2"	64'-2 1/2"	7	5	7	9	10	4	1020
5	77'-1 9/16"	113'-8 1/2"	93'-7"	77'-10"	50'-10 1/4"	26'-3 3/8"	16'-11 1/4"	73'-5 5/8"	23'-3 3/8"	19'-8 9/16"	50'-10 1/16"	23'-0 3/8"	13'-5"	64'-5"	8	3	9	8	11	3	1020



Stud Shear Connectors shown shall be 3/8" x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the girder flange in accordance with the recommendations of the Manufacturer. 3/4" studs may be used in place of the 3/8" studs shown, at the ratio of 1.361 - 3/4" studs in place of one 3/8" stud. 3/4" studs will be used as basis for measurement of structural steel in shear connectors.

**SHEAR CONNECTOR DETAIL**

NTS



**DETAILS OF WELDED SPLICES**

N.T.S

**TABLE FOR WELD**

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To 3/4" Inclusive	1/4"	
Over 3/4"	5/16"	

NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

**LOADS TO GIRDERS:**

Live Loading: HS20

Method of Design: Load Factor

Dead Load:

Girder 1

Girders 2 thru 4

Girder 5

Non-Composite:

918 plf +  
1.1(Wt./Ft. of Girder)

1,069 plf +  
1.2(Wt./Ft. of Girder)

941 plf +  
1.1(Wt./Ft. of Girder)

Composite:

354 plf\*

338 plf\*\*

323 plf\*

Live Load:

1,440 Wheels  
+ Impact

1,636 Wheels  
+ Impact

1,440 Wheels  
+ Impact

\* Includes 156 plf Future Wearing Surface

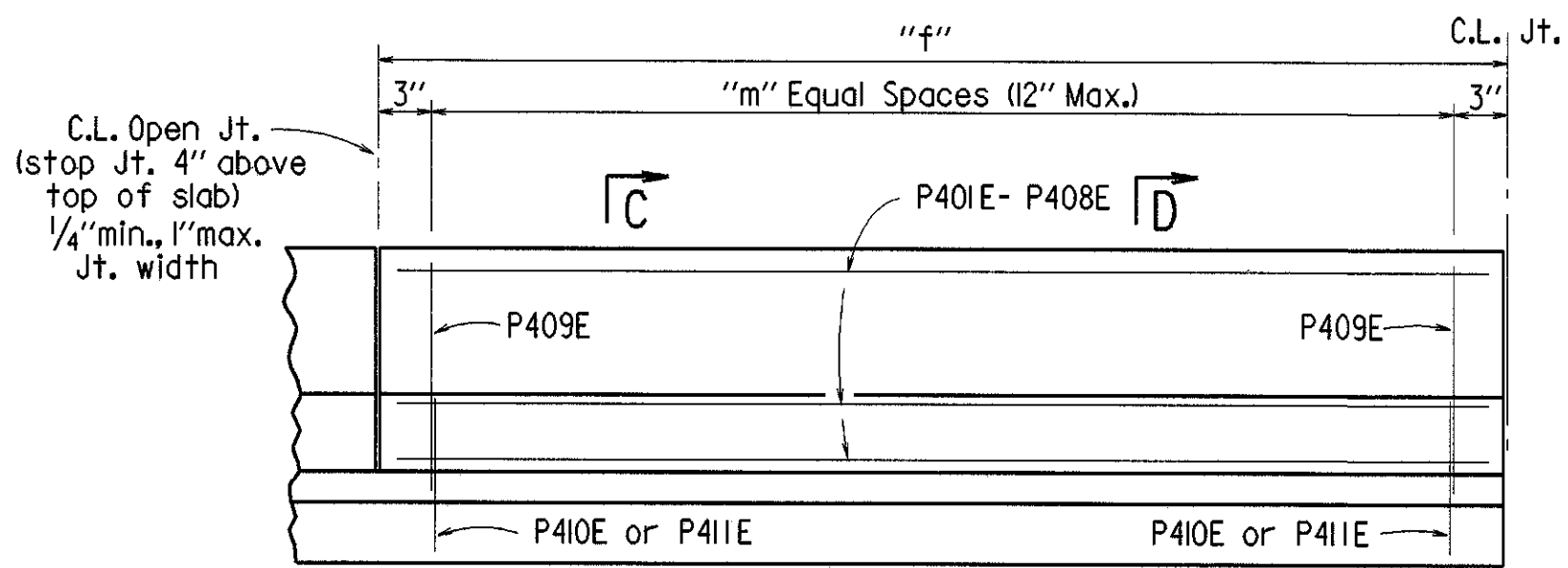
\*\* Includes 216 plf Future Wearing Surface



BRIDGE ENGINEER

(SHEET 2 OF 6)  
DETAILS OF 360'-0"  
CONTINUOUS PLATE GIRDER UNIT  
ASHDOWN BYPASS  
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

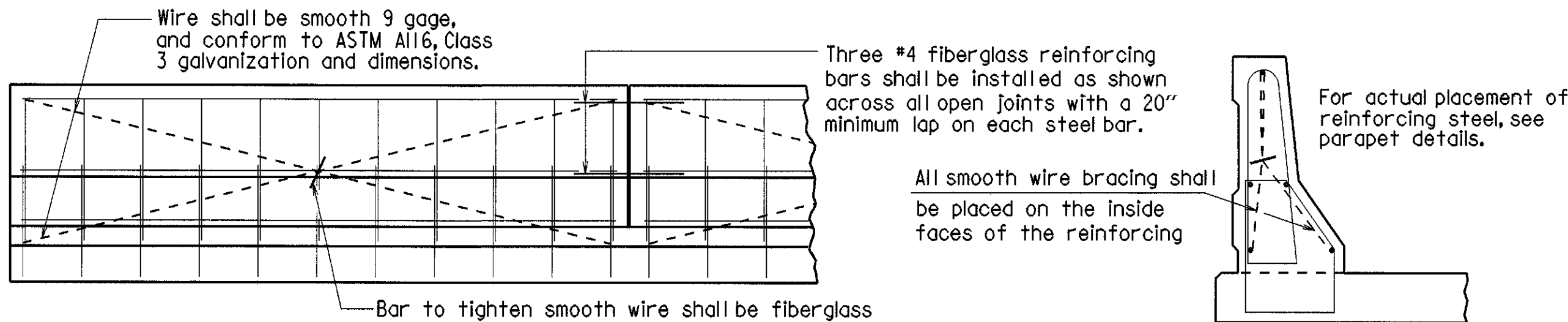
DRAWN BY: LM/MJT DATE: 03-22-02 FILENAME: B030264X2.SI  
CHECKED BY: CES DATE: 4-16-02 SCALE: 3/8" = 1'-0"  
DESIGNED BY: CES DATE: Mar 02  
BRIDGE NO. 06930 DRAWING NO. 44054



DETAILS OF CLOSED PARAPET RAIL  
NTS

PARAPET RAIL  
TABLE OF VARIABLES

"f"	"m"	Longitudinal Steel
9'-6 7/8"	10	P401E
10'-0"	10	P402E
11'-6 1/2"	12	P403E
12'-0"	12	P404E
12'-4 1/8"	12	P405E
12'-9 3/8"	13	P406E
12'-10 1/8"	13	P406E
13'-0 1/4"	13	P407E
13'-1 7/8"	13	P408E
13'-2 5/8"	13	P408E



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

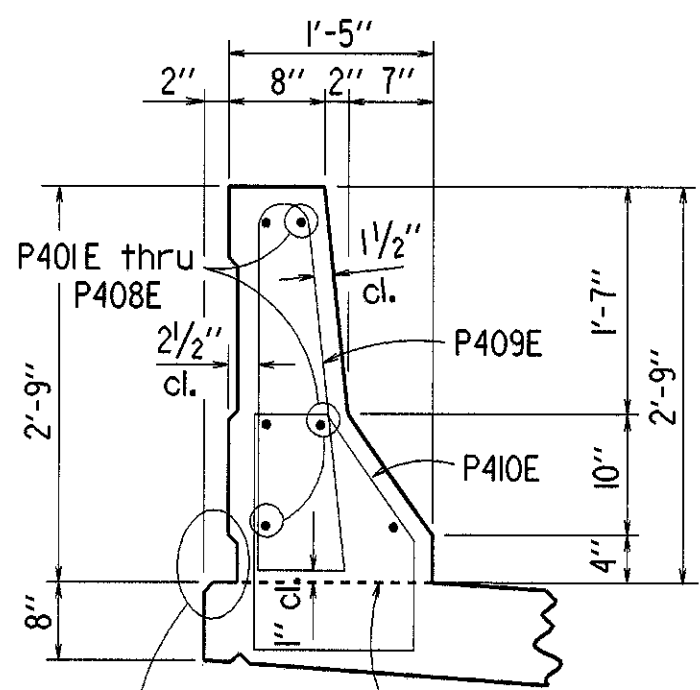
Three #4 fiberglass reinforcing bars shall be installed as shown across all open joints with a 20" minimum lap on each steel bar.

All smooth wire bracing shall be placed on the inside faces of the reinforcing

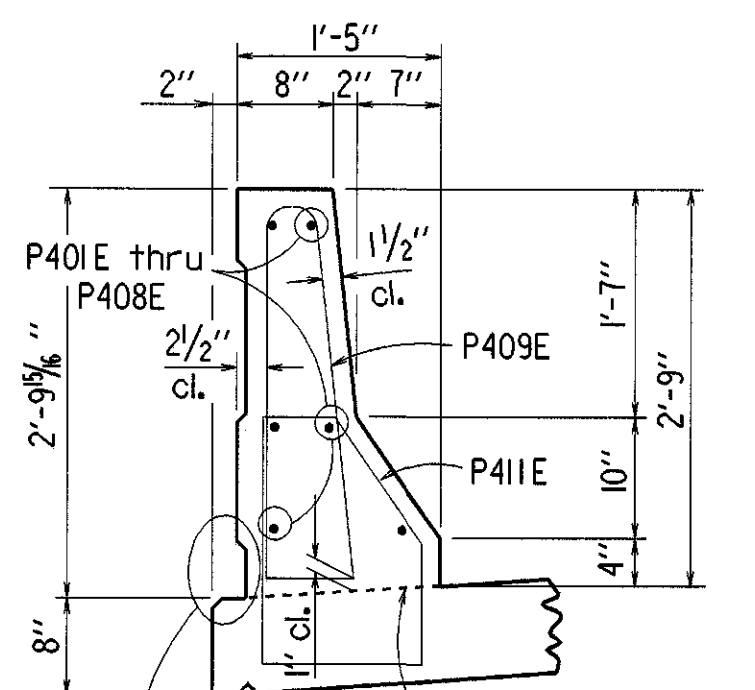
For actual placement of reinforcing steel, see parapet details.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

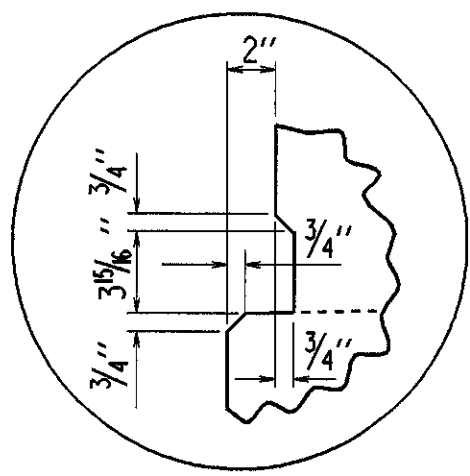
Scale: 1/2" = 1'-0"



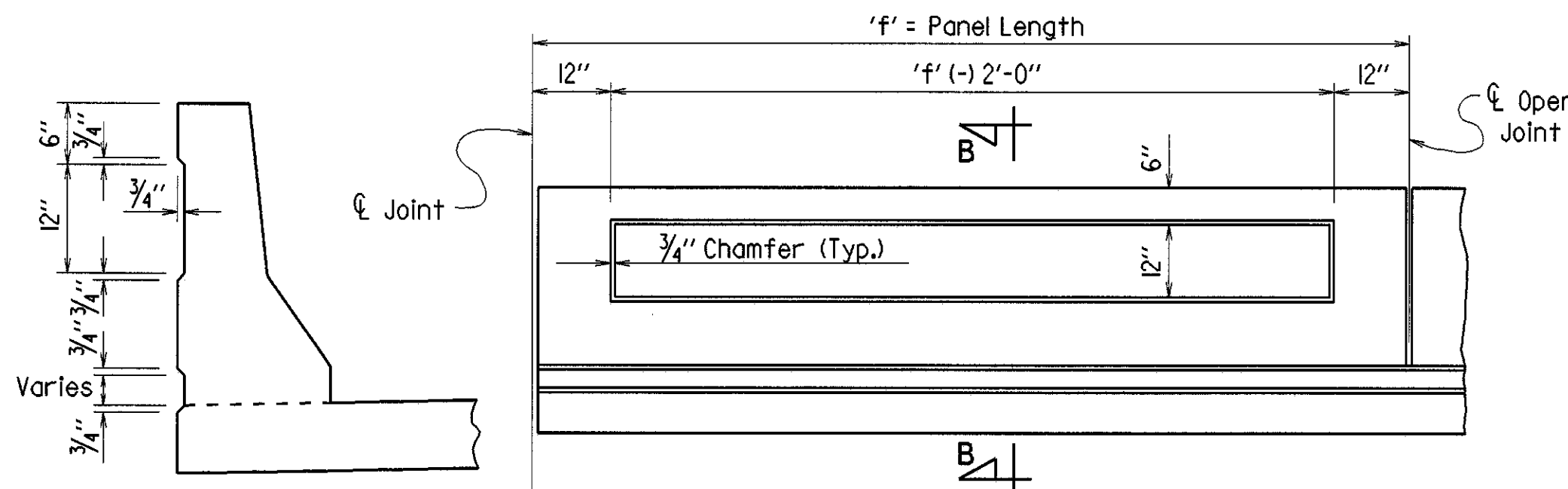
SECTION C-C  
(High-side of roadway)  
NTS



SECTION D-D  
(Low-side of roadway)  
NTS

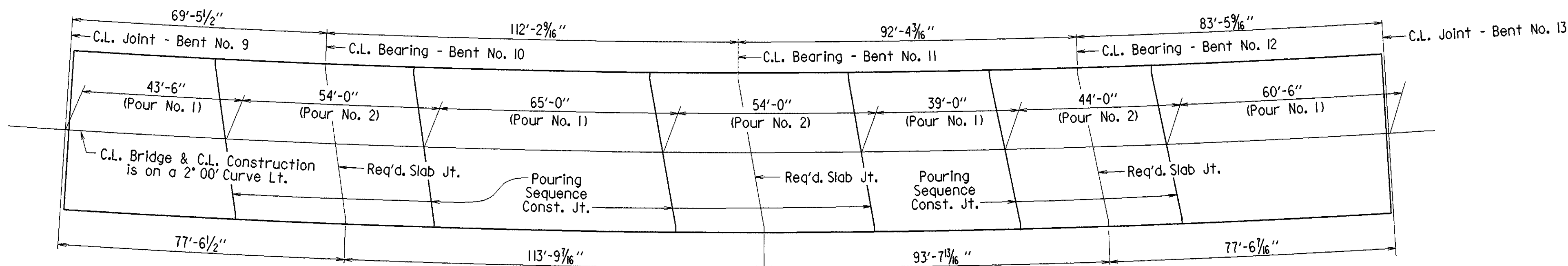


DETAIL Y  
NTS



SECTION B-B  
N.T.S.

DETAILS OF PARAPET ENHANCEMENT  
N.T.S.

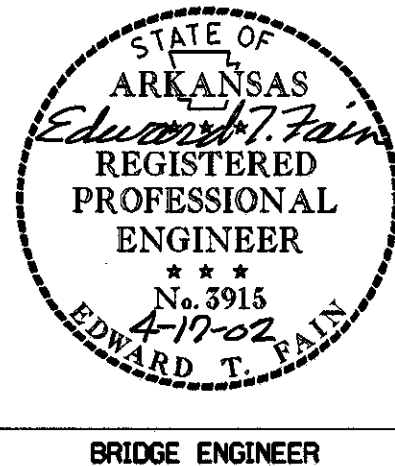


Note: Pouring Sequence Construction Joints are approximately parallel to Required Slab Joints at C.L. Bearing and shall align with Parapet Open Joints.

SLAB POURING SEQUENCE  
NTS

Note: Pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between adjacent pours. Any railing pours made before the entire slab unit has been placed must be approved by the Bridge Engineer.

Concrete in bridge superstructure shall be placed, consolidated and screeded for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The contractor must obtain approval from the Bridge Engineer for any deviations from the pouring sequence shown.



(SHEET 6 OF 6)  
DETAILS OF 360'-0"  
CONTINUOUS PLATE GIRDER UNIT  
ASHDOWN BYPASS  
ROUTE 32 SEC. 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: LM/MJT DATE: 3-15-02 FILENAME: B030264X2.SI  
CHECKED BY: CES DATE: 4-16-02 SCALE: AS NOTED  
DESIGNED BY: CES DATE: Mar '02  
BRIDGE NO. 06930 DRAWING NO. 44058